



1994

The Transition of Learning Disabled Adolescents from High School to Postsecondary Training and Employment

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LOYOLA UNIVERSITY OF CHICAGO

THE TRANSITION OF LEARNING DISABLED ADOLESCENTS FROM HIGH
SCHOOL TO POSTSECONDARY TRAINING AND EMPLOYMENT

A DISSERTATION SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
IN CANDIDACY FOR THE DEGREE OF
DOCTORATE OF PHILOSOPHY

DEPARTMENT OF COUNSELING AND EDUCATIONAL PSYCHOLOGY

BY

CAROLINE REHM SEUFERT

CHICAGO, ILLINOIS

JANUARY 1994

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DEDICATION

This work is dedicated to my children,
Neil Rehm and Spencer Trent Seufert

ACKNOWLEDGEMENTS

The author would like to acknowledge the guidance provided by her committee chair, Martha Ellen Wynne, Ph.D., who gave invaluable help in the writing of this work.

Special thanks also goes to the members of my committee: Janis Fine, Ph.D.; Carol Harding, Ph.D.; and Ronald Morgan, Ph.D.

I would also like to thank the high school students and their teachers who participated in this project.

Finally, I would like to express my appreciation to my family for their support throughout this endeavor.

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CHAPTER I

INTRODUCTION

This research project was designed to examine the transition of learning disabled (LD) youth from high school to postsecondary training and employment. The overall focus of the study was to assess the impact of academic and social skills deficits on employment adjustment.

The transition of youth with disabilities, including learning disabilities, has been identified as a national priority by the Office of Special Education and Rehabilitation Services (OSERS; Will, 1984). Follow-up studies consistently demonstrate the difficulty students with disabilities encounter in obtaining and maintaining employment commensurate with their ability (Edgar, 1987; Hasazi, Gordon & Roe, 1985; Mithaug, Horiuchi, & Fanning, 1985). The unfavorable outcomes experienced by these students have sparked a series of legislative actions to address the complexities involved in preparing youths with disabilities for the postsecondary period. Recently, Congress passed The Individuals with Disabilities Act (IDEA) of 1990 (P.L. 101-476, formerly known as the Education of the Handicapped Amendments of 1990) to assist in the transition process. This act contains several new initiatives in the area of transition. Included is the following definition of "transition services:"

a coordinated set of activities for a student, designed within an outcome oriented process, which promotes movement from school to post-school activities, including post-secondary education, vocational training, integrated employment (including supported employment) continuing education, adult services, independent living, or community participation. (Individuals with Disabilities Education Act Amendments, 1990, Section 603 [A], 20 U.S.C. 1401 [A])

Transition services are specified in the Individual Education Plan (IEP), which must include:

a statement of the needed transition services for students beginning no later than age 16 and annually thereafter (and, when determined appropriate for the individual beginning as age 14 or younger), including when appropriate, a statement of the interagency responsibilities of linkages (or both) before the student leaves the school setting. (Individuals with Disabilities Education Act amendments, 1990, Section 602 [A], 20 U.S.C. 1401 [A])

To understand the current commitment to transition, it is essential to review the evolution of the provision of services to the learning disabled. The foundation for the learning disabilities field was laid in the 1940's by A.A. Strauss and others, but it was the events of the 1960's that provided the

contextual background for the current conceptualization of learning disabilities. In the early 1960's, a group of parents whose children were not mentally retarded, blind, deaf, or physically handicapped became concerned for their children who were not learning. This group of children did not fall into the traditional category of the handicapped but nevertheless appeared handicapped in learning. These children had reasonably normal intelligence and often no overt difficulties, such as those affecting blind, deaf, or physically handicapped children. Their parents began to organize under such names as the Society for Brain Injured Children or the Society for the Perceptually Handicapped. After many state and local organizations were formed, a national Conference on Exploration into the Perceptually Handicapped Child was held in Chicago in 1963. Parents were seeking an inclusive name for their national organization. The term "learning disabilities" was suggested by Samuel Kirk, then at the University of Illinois, to describe a group of children who had disorders in the development of language, speech, reading and associated communication skills needed for social interaction (Kirk, 1963). This description did not include those with sensory handicaps and general mental retardation. After much debate on the terminology, the group was organized as the Association for Children with Learning Disabilities (ACLD), now known as the Learning Disabilities Association of America.

During the 1970's and 1980's, the stage was set for the development of legislative, legal, and educational interventions for people with learning disabilities. Since the passage of the Education for All Handicapped Children Act (P.L. 94-142) in 1975, the field of learning disabilities was geared to learning disabled individuals in primary and secondary education environments. Most of the effort was focused on identifying the characteristics of children with learning disabilities and then designing strategies, methods and materials that would enable the child to function successfully in the regular education classroom (Smith, 1989). Find the problem and fix it, was the motto for researchers and practitioners. However, as researchers have discovered and as the learning disabled have experienced, a learning disability is not a finite condition that vanishes upon exiting the academic arena. It is a disability that persists throughout life and impacts many aspects of daily living.

Current thinking regards an exclusively cognitive view of learning disabilities as insufficient. A substantial number of studies have demonstrated the presence of social difficulties for many LD youth. The research of Bender, 1986; Bryan, 1974, 1976; Bryan & Bryan, 1983; Deshler, Schumaker, Warner, Alley, & Clark, 1980; Eliot & Gresham, 1989; Kistner & Gatlin, 1989, suggests the impact of a learning disability is not only on academic learning but also on occupational, social and emotional development. Houck (1984) concurs when

she writes, "That the comprehensive needs of the developing person must not be overlooked because of a myopic view of the academic problems. We need to examine social and emotional well being, career readiness and other skills that foster personal independence." For the LD person, deficits in social perception can interfere with the development of social skills. Specific difficulties may include problems with inference, supersensitivity, inability to communicate feelings, limited inter-personal problem-solving skills, difficulty anticipating probable outcomes, and failure to generalize from one situation to another (Deshler, 1978; Kronick, 1978, 1981).

The relationship of social competence to employment success has been illustrated in several reports. The United States Secretary of Labor issued the SCANS (Secretary's Commission on Achieving Necessary Skills) report for America 2000. According to this report, the development of adequate interpersonal relations is a necessary component of successful transition. The authors examined the demands of the workplace and asked whether young people are capable of meeting these demands. Included in the five competencies listed for mastery was, interpersonal competency (i.e., works well with others). Under this heading six subskills were listed.

The importance of social skills was also noted in a report issued by the American Society for Training and Development, a group that sponsors training in firms. The

report, "Workplace Basics: The Skills Employers Want," (Carnevale, Gainer, & Metzger, 1988) includes both academic and social competencies in their definition of necessary skills . In addition, The Commission on the Skills of the American Workforce surveyed a sample of firms. The Commission concluded that with some exceptions, "the education and skill levels of American workers roughly matched the demands of their jobs." Instead of a deficiency in conventional skills, their sample identified a deficiency in social skills (National Center on Education and the Economy (NCEE,1990):

While businesses everywhere complain about the quality of their applicants, few refer to the kinds of skills acquired in schools. The primary concern of more than 80 percent of employers is finding workers with a good work ethic and appropriate social behavior-"reliable," "a good attitude," "a pleasant appearance," "a good personality." (p.24)

Defining effective transition practices for handicapped students is the mission of The Transition Institute at the University of Illinois. In their examination of model transition-to-employment programs they cited the development of a vocational assessment portfolio using both classroom and situational assessment. From their best practices perspective, the Institute recommended an evaluation model that provides students with opportunities for awareness,

integration, skill development, and skill application (Leach, 1991 & Kohler, 1992). Goldstein et al. (1980) found that the assessment of social skills or the detection of undeveloped or inappropriate social skills is most successful when the procedures involve direct observation within natural settings rather than abstract or inferential techniques.

The work study program that combines classroom instruction with an experiential component represents an attempt to embody these principles. Participation in vocational education, particularly a work study program, appears especially relevant for students with disabilities. Thus, it is not surprising that the predominant recommendation of IEP participants is to program LD students into the work study program. Research findings (Steinberg, Greenberger, Garduque, & McAuliffe, 1982; Fourqurean, Meisgeier, Swank, & Williams, 1991; Siegel & Gaylord-Ross, 1991; Clement-Heist, Siegel, & Gaylord-Ross, 1992) and developmental theory (Erikson, 1956; Bronfenbrenner, 1979) provide support for this programming decision.

Steinberg and his colleagues (1982) studied adolescents in the workplace. They claimed that working produced a positive effect on the acquisition of practical knowledge for low achievers. Low school achievers were better able to gain practical knowledge when the information was tied to the workplace experience. In a study of employment adjustment, Fourqurean et al. (1991) found that for those LD students who

exit high school without ever being employed, the demands of the job market may be completely unexpected, if not, overwhelming for them. In contrast, those with job experience may not only be better able to cope with job demands but are also likely to know how to seek and to find jobs in the community.

In two recent studies concerned with students' employment performance, the investigators included the students' workplace, as well as, the classroom in their investigation. First, Siegel & Gaylord-Ross (1991) included parents, students, and employers in a follow-up study and found that job match had the most significant relationship with outcome variables. In a second study, Clement-Heist, Siegel, & Gaylord-Ross (1992) examined job related skills of four students within the training setting and the generalization of job-related social skills to a natural work environment. They concluded that generalization increases when training is extended into the natural environment.

The findings of these studies is consistent with Bronfenbrenner's (1976) theory of the environment as consisting as a set of nesting structures that interconnects with and has an impact on the development of the individual. Crucial components of a beneficial work experience include the educational context, whether the work experience program imparts skills or knowledge valuable for work life; and the social context that brings young people into contact with

adults who have a stake in preparing them for adulthood. The overall context of the work experience rather than specific aspects of certain jobs should be stressed. Work experience in its broadest sense refers to a sum total of all factors considered together. The high school work study program provides a structure to support the continuity between school and work.

Learning disabled students have much in common with their non-disabled peers. One of the demands of adolescence is to acquire a sense of self which is, in part, the arrangement of ego interests in which one feels competent (Erikson, 1956). Work, and specifically a work experience that is supported by teacher involvement, is one such arena in which this could potentially occur for adolescents.

The study to be described was designed to compare work related outcome measures of LD students and their non-learning disabled peers enrolled in high school work study programs. The students and their respective employers completed the job performance rating form that was required for all participants in the work study program. The degree of correlation between the learning disabled students' and the non learning disabled students' ratings with the employers' rating was examined. It should be noted that this investigation differs from earlier research efforts primarily by focusing attention on the students' self-assessment of their social skills. Investigators rarely report whether the subjects' assessment

of their performance (i.e., students enrolled in the work study programs) agrees with the perceptions of others. If the students, in the work study programs, assume a more active role in their work experience, the effects of the program may be more pronounced.

This research project contains two distinct dimensions in its design. First, the study is concerned exclusively with learning disabled adolescents. Most previous studies have been difficult to interpret because they have combined disabilities across diagnostic categories (i.e., EMH/BD). Polloway and Epstein (1986) stated, "LD transition needs deserve specific attention, LD youth represent a different population, with different needs and require different interventions." Secondly, in addition to the mixing of disabilities, most studies have not included a non-LD control group. The use of an appropriate control group is critical to the interpretation of results. White (1992) in his review of postschool adjustment studies cautioned that a person with learning disabilities is defined on some dimension of adjustment according to how well others are doing on the same dimension. The inclusion of a control group of non-learning disabled peers in the context of their work environment presents a design in which a more comprehensive picture of work adjustment could emerge.

The results from this investigation are potentially beneficial because the study is directed at examining aspects

of the transition process that are unique to LD adolescents as they prepare to negotiate the transition from school to postsecondary training and employment. Data regarding the employment experience of LD youths of varying socioeconomic status and of different achievement levels should help in the design of comprehensive LD transition programs. Further, information delineating similarities and differences between the two groups regarding their perspectives on various aspects of their lives, such as school involvement, nature of finding employment and future plans would have many implications for policy design.

Clearly, the demand and interest in transition will increase and additional programs will be established. Questions about appropriate design for the comprehensive preparation of learning disabled adolescents are not merely academic arguments but concrete concerns that need empirically based answers.

CHAPTER II

REVIEW OF THE LITERATURE

The literature reviewed in this chapter pertains to what we know and do not know about the transition of learning disabled adolescents from high school to postsecondary training and employment. In the initial section of this literature review, a case is made for the notion that learning disabled adolescents, in addition to academic deficits, often have social skills deficits that impede the transition to the postsecondary period. A definitional debate that suggests expanding the construct of learning disabilities to include social skills deficits is presented. This section also describes theoretical attempts to explain the existence of social skills deficits for this population. Additionally, this section examines instructional practices within secondary vocational education programs; specifically, the inclusion of social skills training. The second section contains a review of legislative and educational interventions that have shaped the current federal transition model. The legislation is reviewed in one piece with particular reference to its impact on learning disabled youth. The final section reviews postsecondary outcome studies of young adults with learning disabilities. Employment outcomes and specific areas of

social problems encountered are reported.

Learning Disabilities: An Overview

Learning Disabilities defined

The field of learning disabilities has been troubled since its inception with definitional disputes. The inability to provide a consensus definition has proved problematic on many fronts. In order to appreciate the current legal definition it is useful to review alternative definitions which illustrate the disagreement and variability that have plagued the learning disability field (Keogh, 1988). The current definition of learning disabilities reflects modifications in political policy from earlier definitions. Learning disabilities have often been called the "hidden handicap," because there are no overt characterizations that identify people with this disability. The lack of visual identification has also proved burdensome for those attempting to define this condition. Even the adoption of the term learning disabilities is linked to the acceptance of a definition.

In the 1960's, before there were official learning disabilities, the descriptors used reflected the training of the person working with the child. The medical model was extrapolated from research on adults who had sustained brain injury (Goldstein, 1936) to children who displayed similar characteristics. Terms such as brain damage, organic

disorders, minimal brain dysfunction were frequently used to explain this condition. Others within the medical field who believed the problem was genetic used terms such as congenital word blindness and mixed dominance.

Samuel Kirk (1963) suggested the term learning disabilities because it seemed to focus on what was of greatest concern to parents: their children's performance in school. Despite parents and professionals adopting this term, new terms continued to emerge. Gallagher in 1966 suggested the term *developmental imbalance* which he believed to be more descriptive. A developmental imbalance is a disparity in psychological processes that requires instructional programming of developmental tasks appropriate to the level of the deviant developmental process. Also, in 1966, Clements proposed the term *minimal brain injury* to refer to children of near average, average, or above average general intelligence with certain behavioral disabilities which were associated with deviations of function of the central nervous system.

Many parents and professionals wanted to move away from medically based terminology to educationally based terminology. In 1967, in an effort to bridge the medical and educational models, Johnson and Myklebust suggested the term *psychoneurological disability*, which placed the disability

within the neurological system. They wrote;

...the behavior has been disturbed as a result of a dysfunction of the brain and that the problem is one of altered processes not of a generalized incapacity to learn.

The enactment of the Children with Specific Learning Disabilities Act (P.L. 91-230), in 1969, granted official recognition to the concept of specific learning disabilities and adopted the following definition;

Children with special learning disabilities exhibit a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language. These may be manifested in disorders of listening, thinking, reading, writing, spelling, or arithmetic. They include conditions which have been referred to as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia, etc. They do not include learning problems which are due primarily to visual, hearing, or motor handicaps, to mental retardation, emotional disturbance, or to environmental disadvantage.

This definition acknowledges that the term learning disabilities encompassed a range of previously named conditions. In addition, learning disabilities is distinguished from other primary handicapping conditions and environmental disadvantage. Also the condition is identified

as involving one or more of the psychological processes necessary for learning.

As part of the Education of All Handicapped Act in 1975, a new definition of specific learning disability was recognized and remains the legal definition;

"Specific learning disability" means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, of emotional disturbance, or of environmental disadvantage. (U.S. Office of Education, 1977).

This definition reflects only minor changes from the 1969 definition. Key concepts of the definition as outlined by (Houck, 1984) include: the presence of a psychological process disorder, and seven performance areas where the processing disorder may be manifest. The problem may not be caused by one of the other handicapping conditions and that the problem is distinct from those resulting from environmental, cultural,

or economic disadvantages. The definition advanced by Bateman (1992) represents a pragmatic attempt to describe this population. She states the common feature is that children should be labeled learning disabled when they are not mentally retarded but have more severe difficulty in acquiring, applying, and retaining information than we would predict from the other information we have about that child and his or her instruction.

Even passage of P.L. 94-142 did not end the dissatisfaction and disagreement regarding the definition. In addition to definitional disputes there are those who argue about the existence of learning disabilities as a separate handicapping condition (Barsch, 1968; Coles, 1987; Franklin, 1987). Barsch, (1968) asks whether learning disabilities should be conceptualized as a category of disability, comparable to visual impairment, mental retardation or orthopedic disability, or whether it should be a "safety net" concept, catching and including all children who present learning problems. This same thought is shared by Coles (1987) who argues in the Learning Mystique that such controversy exists regarding learning disabilities because it does not represent a separate, distinct disability. Franklin (1987) in his book, Learning Disability; Dissenting Essays, agrees with Coles that the constellation of difficulties associated with learning disabilities does not constitute a separate handicapping condition.

When learning disabilities was defined as underachievement relative to mental capacity it became different from the other exceptionalities in special education, the focus became primarily an educational one. By definition, emotional and social skills were secondary to academic difficulties so that the thrust of the field was on appropriate educational diagnosis and remediation.

State and federal definitions do not mention deficits of adaptive behavior, social competence, socio-adaptability, or independent functioning. The role of social competence for individuals with learning disabilities has marshalled such concern among researchers and practitioners that an altered definition which reflects the existence of social skills deficits in this population has been proposed. In 1981, the Interagency Committee on Learning Disabilities (ICLD) developed a modified definition that seeks to include social skills deficits as a specific type of learning disability. The ICLD was mandated by P.L. 99-158 (Health Research Extension Act of 1985) to determine what is known about learning disabilities. The ICLD selected five topics for further analysis, one of which was social skills deficits. Inclusion of social skills deficits by the ICLD acknowledges the difficulties many LD students have in establishing and maintaining stable interpersonal relationships with peers and adults. Moreover, it places social skills deficits on equal

footing with academic skill deficits. In 1987, the ICLD proposed an amended version of their 1981 definition.

Relevant portions of the ICLD definition are presented;

...Learning disabilities is a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of ... or of *social skills*.

These disorders are intrinsic to the individual and presume to be due to central nervous system dysfunction...(p. 222).

In response to the ICLD's position, the National Joint Committee on Learning Disabilities (NJCLD), an umbrella group of seven organizations, attempted to clarify the status of social skills not as a specific learning disability but as an important correlate of learning disabilities.

Mellard and Hazel (1992) argue that the proposed "social skills deficit" is too narrow a concept. Given these definitional issues, the authors' are interested in the emphasis placed on the concept of socio-adaptability by the President's Committee on Employment of Persons with Disabilities (Gerber & Brown, 1991). At a committee-sponsored conference in May 1990, socio-adaptability was among the eight topics identified as a priority for discussion of LD and its relationship to vocational functioning and employment issues. Socio-adaptability is not a narrowly defined construct of

social skills; rather, it includes issues such as "personal responsibility, the social skills for personal and vocational functioning, and the effect of the learning disability on adolescent and adult functioning" (Gerber & Brown, 1991).

Social skills defined

A review of the literature pertaining to social skills provides an explanation and clarification of the concept but not a consensus definition. A review of definitions by Trapani, C. (1990) found that definitions of social skills range from strategies of social influence to interpersonal skills that are characteristic of social competence. Many psychologists include social skills in the theoretical hierarchy of social competence (Greenspan, 1981; Wine & Smye, 1981). Social skills refer to components of social behaviors (i.e., facial expressions, physical gestures, and greetings) that meet the needs of the individual who monitors the appropriateness of the behaviors through a system of rules (Trower, 1982).

The socially skilled individual has been described as someone who easily interacts with others, is a good conversationalist, can communicate and elicit information, and leaves others with a positive feeling after the interaction (Kelly, 1982). Ladd & Mize (1983) defined the socially skilled person as one with the "ability to organize cognitions and behaviors into an integrated cause of action directed

towards culturally acceptable social or interpersonal goals" (p.127). Johnson & Myklebust (1967) have provided a less complex definition, stating, it is an ability to identify and recognize the meaning and significance of the behavior of others. They expand their explanation of disability to include children who are unable to perform social activities in keeping with chronological age and intelligence are handicapped by deficiencies in social perception.

Chadsey-Rausch (1992), of the Transition Institute at the University of Illinois, argues these definitions are too broad and imprecise to be of use in either the assessment of social skills or for instructional purposes. The following definition from Cartledge and Milburn (1986) is favored because of its narrower focus: Social skills are goal-oriented, rule-governed and vary according to social context; they involve both observable and nonobservable cognitive and affective elements that assist in eliciting positive or neutral responses and avoiding negative responses from others.

Theoretical explanations for social skills deficits

In the absence of consensus regarding the definition of both learning disabilities and of social skills it is not surprising that there is debate within the field regarding the explanation for LD students' tendency to have social skills deficits. For purposes of this study, theoretical

explanations from Erikson (1950) and Bronfenbrenner (1979) are presented. Further, additional explanations are advanced to explain possible causes of social skills deficits for some students labeled as learning disabled.

One of the most common ways of viewing development has been through stage theory. Erikson (1950) provides a developmental hierarchy of eight stages. Each stage moves one closer to the highpoint of ego integrity which could be conceptualized as personal satisfaction and identity. The development path is as follows:

1. Trust versus mistrust.
2. Autonomy versus shame and doubt.
3. Initiative versus guilt.
4. Industry versus inferiority.
5. Identity versus role diffusion
6. Intimacy versus isolation.
7. Generativity versus stagnation.
8. Ego Identity versus despair.

Meyer (1983) and Heisler (1983) have examined the impact of learning disabilities on development using an Eriksonian paradigm. Meyer focused attention on the development crisis, "industry versus inferiority," which Erikson proposes occurs in the early school years at approximately 6-12 years of age. She suggests that successful negotiation of this period, which depends on the achievement of a sense of academic competence is difficult for the child with learning disabilities. A sense

of failure which develops in the child who cannot meet society's expectations for competency in school could then result in the unsuccessful negotiation of this stage. In turn, this unsuccessful resolution does not lead to positive growth but instead threatens the self-esteem of the LD child and results in regression and stagnation. Not only, then, is the child likely to adopt the behavior of a younger child or to stagnate emotionally but is unprepared to negotiate subsequent stages of development. This sense of inferiority may be felt internally (I can't do what I should do, i.e. read, write and spell) and experienced from external sources (others don't accept me because I can't read, write, spell).

Heisler (1983) explores relations that exist between LD students and Erikson's stages of emotional development from birth through adulthood. Like Meyer, she agrees the stage of industry is a critical developmental period for children with learning disabilities because their difficulty with developmental tasks make them vulnerable to feelings of frustration and inadequacy. These negative internal feelings can get expressed in acting out behavior and withdrawal. These attitudes do not develop the sense of competence necessary for adolescence, the next stage of development. Instead of the learning disabled pre-adolescent, being able to cope with the demands of adolescence which include independence from parents, development of positive peer relations and a realistic, open attitude toward future career

possibilities those with learning disabilities remain emotionally dependent and insecure.

Houck (1984) states that in this appealingly simple hierarchy "snags" may be occurring for the learning disabled child which are interfering with academic and personal accomplishments. Kronick (1978) has stated that in terms of total life functioning, psychosocial factors play a role in the ultimate success of learning disabled adolescents. Learning disabilities impact negatively on the formulation of future vocational goals and on a positive orientation to adult roles and functions. Social and vocational adjustment may not be automatically successful for those with learning disabilities.

Bronfenbrenner's (1979) ecological theory of development provides an additional explanation for the presence of social skills deficits among children labeled learning disabled. This explanation differs from earlier theories by placing the cause on factors external to the child. It emphasizes the role of ecological factors, or more specifically, the child's school and social environment (Berndt, 1983; Bronfenbrenner, 1977). These factors would include the design of the child's school program. Bradfield (1974) noted that the predominant attention to academic remediation may in fact compound the individual's adjustment problems. The time the student spends out of the classroom working on the deficit area, is often at the expense of missed learning opportunities that could have

contributed to the child's development as a more well-rounded individual. Factors such as the type of classes into which the LD child is mainstreamed and the percentage of the school day the LD child is mainstreamed, could interact with other determinants of low peer status such that a child who is mainstreamed for only a short time during the day would be less popular. Ecological variables clearly interact with associated processing problems. This relationship, if not the explanation for the social skills deficits, plays a role in the maintenance of disordered social functioning.

Additional explanations have been advanced by Hoyle and Serafica (1988). The first suggests that LD children's low social status is a consequence of their academic difficulties. This could be called a "consequence" explanation. According to this theory the child's obvious learning difficulties and/or the fact that he receives special education result in the child's being perceived, even labeled, as "different" and consequently rejected. Thus far, research has not yielded support for labeling alone (Siperstein, Bopp, & Bak, 1978) as a determinant of LD children's low social status.

Most researchers view social deficits as a syndrome of many other characteristics. Johnson & Myklebust (1967) hypothesize that a child's deficiencies in social perception is a neurological dysfunction that can be related to certain areas of the brain. Such children may be average or even

above average in areas such as verbal intelligence, but they have difficulty in the basic social demands of everyday life.

An alternative explanation of LD children's social problems is that the frustration, anxiety and sense of failure they experience induce behaviors which make them less liked or even disliked by their peers. According to this explanation, the academic and interpersonal problems of children with learning disabilities stem from the same source (i.e. the disorder is in one or more psychological processes, which is their distinguishing characteristic (Bryan, 1978). Thus, it is hypothesized that LD children's low social status is associated with cognitive, particularly social cognitive, and communication limitations from a difference or deficit in their use of these abilities. Kronick (1976) suggested that the learning disabled person may fail to perceive features of the total social situation or offered feedback. This oversight or imperception could result in reception of ambiguous messages, which further inhibit the likelihood of a socially accepted response.

Interpersonal characteristics

Seminal theorists in the field, Strauss and Orton did view the child with learning disabilities in the larger social context. In 1947, Strauss & Lethinen discussed what they observed and labeled as emotional shallowness in the brain

injured children enrolled in their school. The students' feelings lacked the enduring quality of normal emotions. Other early practitioners noted similar findings:

Lewis (1960) stated that the mechanism that organizes behavior and enables the child to perceive social situations and to develop awareness of social attitudes fails to operate properly.

Baer (1961) reported these children have impaired interpersonal relations.

Benton (1962) noted a lack of affective bonds between the brain-injured and other people.

In research conducted by Bryan (1974 and 1978), Bryan and Pflaum (1978) and Bryan et al. (1976), the characterizations of behaviors exhibited by students with learning disabilities are as follows:

(1) Experienced different social interaction patterns with peers and teachers when compared to their normally achieving peers (that is, they were ignored more frequently and engaged in fewer nonacademic interactions with their peers).

(2) Were less frequently considered socially attractive by their peers and more likely to be rejected socially.

(3) Were instantaneously rated as less attractive, less proficient in their ability to express ideas, and less successful academically by strangers unaware of their diagnostic label.

(4) Were less accurate in their interpretation on nonverbal communications.

(5) Emitted significantly more competitive statements when interacting with other students.

In a study conducted by Bruiniks (1978) the learning disabled students had lower social status and self-concepts than their normally achieving peers. Interestingly, however, the LD subjects overestimated their social acceptance. The author states it is unclear whether this judgement reflects naivete or is simply a defense mechanism.

Experimental research supports the assertion that mildly handicapped adolescents are not typically as advanced as their non-handicapped peers in many interpersonal skills including perception and interpretation of emotions and social situations and the ability to develop empathy (Bachara, 1976; Pearl, 1982). Current knowledge indicates that as a group, LD youth are less accepted by their peers and demonstrate less effective social behaviors across several domains of interpersonal functioning (Gresham, 1988) than their peers without disabilities.

If the ability to make and sustain friendships can be conceptualized as a facet of social skills development then the study by (Zetlin & Murtaugh, 1988) is of interest. Participant observation techniques were employed in a high school setting to document the friendship patterns of mildly learning handicapped (i.e. mildly mentally retarded and

learning disabled) and nonhandicapped adolescents. Three features of friendship were examined: intimacy, empathy, and stability over time. Handicapped adolescents were found to have fewer and less stable friendships than their nonhandicapped counterparts.

An assessment of employment related social skills (Schumacher & Hazel, 1982) concluded that LD adolescents experience difficulty with pertinent occupational social skills such as participating in a job interview, accepting criticism from an employer, providing constructive criticism to a co-worker or explaining a problem to a supervisor. These findings were consistent with an investigation conducted by Matthews, Whang, & Fawcett (1982). Their study analyzed the differences in levels of occupational skills between LD youths and their non-LD peers. The results showed that although both groups demonstrated low levels of employment-related skills; the non-LD high school students performed significantly better on the job-related skills than their LD peers. According to Gresham & Reschly (1986) LD students demonstrated the poorest social skills in task related behaviors which include attending behaviors, completing tasks, following directions and on-task behaviors.

The interpersonal characteristics reviewed in this section represent a cluster of characteristics assigned to represent those with learning disabilities. Characteristics identified in the early literature and in later studies, that

include the LD adolescent in the work environment, continue to demonstrate that the learning disability label is broadly applied to a heterogeneous group of students. It appears there may be sub-groups that exhibit difficulties with social skills. When this is the case, social skills training must be included in the student's transition program.

Review of instructional programs

An expanded review of the literature was conducted in an effort to describe current instructional practices within secondary vocational programs; specifically, practices related to instruction in social skills. The linkage of social competence to employment success suggests that for programs to be sufficiently comprehensive social skills training must be part of the curriculum.

A number of authors have investigated work study programs (Halasz et al., 1984; Okolo, 1988; Okolo & Sitlington, 1988; Shapiro & Lents, 1991) and have found that social skills training rarely exists in secondary vocational programs. Okolo (1988), found that employability or human relations skills were rarely taught in the thirty secondary vocational education programs she observed. Although over half stated that they engaged in some social skills development, the author found that when these programs were observed, this was not the case. This finding agreed with the observations of Halasz et al. (1984) who observed nine vocational programs.

They found that only .7% of the program time was allotted to employability skills. Vocational skills content was the predominant focus with infrequent instruction in employability skills. Employability skills content was defined as instruction in general skills that are essential to obtaining and maintaining a job, including work habits and attitudes, job-seeking and job applications strategies, and knowledge about the world of work. Human relations skills, which included instruction in job related interpersonal and social skills, were not observed in the programs.

Shapiro & Lents (1991) examined two aspects in the transition of LD youth. The targeted population in this project were 12th grade students enrolled in vocational-technical programs in Pennsylvania. The project evaluated the impact of teaching self-management skills to the LD youth and the impact of attending a vocational-technical program on the post-secondary period. They found that there was no overlap between their self-management program (designed to teach social skills) and the established curriculum. Further, two surveys (Brozovich and Kotting, 1984; Wells et al.'s, 1983) of secondary special educators found that the majority of the respondents, answered "no" to the question "does your educational program include a specific plan designed to promote students' personal growth, social-emotional development, or mental health?" Also, the respondents

reported devoting little or no time to their students' personality development.

In an article that reviewed nine model transition programs for individuals with learning disabilities, seven exemplary components emerged (Rojewski, 1992). Social skills was not among the components identified. Academic remediation was number one. The only reference to social skills was in the component labeled, "academic, vocational, and social-personal counseling". This indirect mention is further proof that even in current transition models social skills development is not directly addressed.

The literature presented demonstrates that social skills and interpersonal relations are not taken seriously and are not adequately addressed in current vocational programs. Given the importance of basic academic skills and interpersonal skills for job success (Okolo & Sitlington, 1986) and the deficits LD adolescents demonstrate in these domains it is apparent that vocational education, in and of itself, will not provide a sufficiently comprehensive program for many LD students. In the following section, a review of educational and legislative efforts designed to facilitate the transition of individuals with disabilities from school to the postsecondary period is presented.

Legislative Review

The population of handicapped young adults exiting school today represent the first groups to be served under the provisions of the Education for All Handicapped Children Act (P.L.94-142). This group of students received extensive mandated special education services during their school careers (Zetlin & Hosseini, 1989). The provision of transition services represents the next logical step in the progression of mandated interventions for this population.

The commitment to transition is best understood through a review of the legislative path that led to and shaped the current transition initiative. Transition policy has developed within the broader context of education, rehabilitation and social policy. The policies that filtered down to or that were designed for special populations often were attached to legislation for the general population. Therefore, the identification of historical markers that influenced transition legislation will be entwined with legislation intended for the general population.

The first piece of legislation to play a role in modern vocational design for special needs population was the Smith-Hughes Act of 1917. This act, in addition to addressing broader concerns of students in regular education, was said to have established the precedent for funding vocational preparation for the handicapped. The Smith-Hughes Act

coordinated vocational rehabilitation programs for handicapped persons.

The term *special needs* can be traced to its inception in the Vocational Education Act of 1963 (P.L. 88-210). This act was the first to define the term as meaning individuals with disadvantaged or handicapping conditions that would prevent them from succeeding in a traditional educational program. Specifically, the act stated

.....and those with special education handicaps-will have ready access to vocational training or retraining which is of high quality, which is realistic in light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training.

The act further stated that federal funds could be used for programs providing occupational training to individuals with academic, socioeconomic, and other handicapping conditions. This act was ineffective because it was too broad and did not mandate the use of funds for the special needs population. As a result, special needs programming was both randomly funded and haphazardly organized (Meers, 1980).

The 1968 amendments, (P.L.90-391), to the Vocational Education Act of 1963 provided funds specifically for special needs students. These amendments represent the first vocation legislation to both define special needs and to provide

funding for these groups. The handicapped were defined as students who were unable to learn successfully because they were mentally impaired; emotionally disturbed; orthopedically handicapped; visually handicapped; had hearing, speech, or other health impairments; or were multihandicapped. The handicapped were to receive 10% of all vocational education funds. The learning disabled were not identified as a specific group included in this legislation.

The Educational Amendments of 1972 (P.L.92-318) further expanded vocational programming and services to disadvantaged and handicapped students. The amendments provided funding and grants to institutions of higher education and to secondary school programs that extended career and occupational education services to students with special needs backgrounds.

The next major piece of vocational education legislation supporting the special needs population was the Vocational Education Amendments of 1976. (P.L.94-482). The 1976 amendments expanded the funding formula for special needs programs and services. This legislation was primarily aimed at the disadvantaged. A more restrictive definition of disadvantaged was advanced and funding was increased from 15% of all vocational funds to 20%. The funding level for the handicapped remained at the 10% level.

These amendments featured two additional features that indirectly would impact the employment of the handicapped. The first was to ensure against sex discrimination in vocation

programs. The promotion of vocational education training programs for men and women in non-traditional occupations increased the employment options for the disabled as well as the general population. This discrimination clause was included by Congress not only to eliminate sex discrimination practices in vocational education but also to help solve the skilled manpower shortage in numerous manufacturing and service businesses and industries (Bies, 1980).

The second major provision of the 1976 amendments was to establish a cooperative working relationship between vocational education and the Department of Labor. Specifically, vocational education programs coordinated their efforts with the Comprehensive Employment and Training Act (CETA) agencies. This act provided federal aid for the training and employment of hardcore under and unemployed individuals. Schools whose populations included this target group had teachers designated to administer the CETA program especially in the provision of summer employment. It was hoped that the concentration of effort would eliminate, or at least reduce, unemployment among those lacking saleable skills. In instances where both descriptors (disadvantaged and handicapped) applied it was very likely that youth with learning disabilities were included in this cooperative venture.

Perhaps the most far reaching pieces of legislation that influenced special needs students, including those with

learning disabilities, was the coupling of the Rehabilitation Act of 1973 and the Education for All Handicapped Act of 1975. Each will be described and their combined impact examined. The Rehabilitation Act of 1973 reorganized and consolidated all existing rehabilitation programs. Specifically, Section 504 became the main catalyst for equal opportunity for all handicapped persons.

Section 504: No otherwise qualified handicapped individual ...shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

Federal Register, 1977, pp 22683-22684.

The last part of Section 504 (State and local school districts must provide an appropriate elementary and secondary education for all handicapped students) became the basis for The Education for All Handicapped Act (P.L. 94-142). This landmark legislation is considered the civil rights acts for handicapped children. The phrase "children with specific learning disorders" represented the first time learning disabled children were mentioned and provided a definition of learning disabilities. This law requires every state to provide a free and appropriate education, including vocational education, for all handicapped children. The key words in this legislation are *free and appropriate*.

Learning disabled students, thanks in part to Section 504 and P.L. 94-142, are major participants in postsecondary programs. The number of LD students attending college, vocational and trade schools and in adult education programs is increasing. This legislation set the stage for improved identification, and preparation of learning disabled youth. Specifically, implementation of Section 504 has provided services and classroom strategies that meet the unique needs of learning disabled students.

Adults with learning disabilities are no longer under the umbrella of P.L. 94-142. They are not automatically entitled to receive free appropriate services based on their individual needs as they leave special education programs (Johnson, Bruininks & Thurlow, 1987). Learning disabled adults must meet vocational rehabilitation eligibility requirements. Vocational rehabilitation is an eligibility rather than an entitlement program. In 1981, the Rehabilitation Services Administration accepted specific learning disabilities as a medically recognizable disability (Gerber, 1981).

Special educators have always had an interest in the vocational training of their students. This commitment has been reflected in various program models. In the 1960's work study programs were introduced. These programs were conducted cooperatively between the public schools and local offices of state rehabilitation agencies (Kolstoe & Frey, 1965; Halpern, 1973). The general goal of these programs was to create an

integrated academic, social, and vocational curriculum, accompanied by appropriate work experience. This alliance between the public schools and the rehabilitation agencies in the work-study program was altered by the passage in 1975 of The Education for all Handicapped Act (P.L. 94-142). Interpreters of this new law determined that "work experience" could be construed as a component of an "appropriate" education during high school for many students with disabilities. This ended the collaborative relationship between vocational rehabilitation agencies and the schools. The work-study model flourishes in most secondary environments and represents an important programming recommendation for many learning disabled students.

On the educational front, then Commissioner of Education, Sidney Marland, in 1968 declared career education a top priority of the U.S. Office of Education. Career education was much broader in focus than the work-study movement. During the 1970's, the movement progressed in several directions, including increased federal visibility, extension of the concept to include a clear focus on the needs of people with disabilities and formal endorsement of the concept by The Council for Exceptional Children. The involvement of The Council for Exceptional Children in the career education movement laid the foundation for preserving the movement in special education irrespective of federal involvement (Halpern, 1992). In 1974, the Office of Career Education was

established within the U.S. Office of Education, thus signaling federal commitment to this movement. In 1977 the Career Education Implementation Incentive Act (P.L. 95-207) was passed. It provided both a federal commitment to career education and specific mention of people with disabilities as target populations of this act. This act was in effect from 1977 to its repeal in 1982.

The Carl D. Perkins Vocational Education Act of 1984 (P.L.98-524) emphasized the provision of supplemental services for special students within mainstream programs rather than in separate vocational programs. Further, this act provided funds to implement many career development services for students with disabilities. The law required that information about vocational education opportunities be provided to students and parents no later than the ninth grade, guidance and counseling services by trained counselors, assessment of abilities, interests, and needs and inclusion of vocational services as a component of the student's individual education plan (IEP). This act was designed to provide support to students, including those with disabilities, in vocational programs to enhance their independent living. The act was amended in 1990 and served as momentum for the current transition effort by forcing many states to confront the school-to-work issue. This act links high school and community college programs, leading from the 11th grade to the community college for an associate's degree.

Undoubtedly, transition is the most significant initiative to emerge in the 1980's. Congress in 1983, provided the first piece of legislation which directly focused on the transition from school-to-work by individuals with disabilities. Specifically, Section 626 of the Education of the Handicapped Act Amendments of 1983 (P.L. 98-199), entitled: "Secondary Education and Transition Services for Handicapped Youth," was passed to address the educational and employment difficulties encountered by people with disabilities. This legislation developed programs for secondary special education (including learning disabilities) and strengthened the transition process to postsecondary education, vocational training, competitive employment, continuing education or adult services. A number of model demonstration grants were awarded under this legislation. Its impact will be felt throughout this decade and into the next century.

Additional legislation passed in the 1980's, designed to enhance career outcomes for people with disabilities, included the Rehabilitation Act Amendments of 1986 and the Developmental Disabilities Act Amendments of 1984. These acts require interagency cooperation and a greater emphasis on providing disabled individuals with vocational training, employment, and independent living services (Brolin & Gysbers, 1989). The Job Training Partnership Act (JTPA) provides important training opportunities for hard-to-serve youth and

adults who can benefit from skill training. The Job Training Reform Amendments of 1992, (P.L. 102-367), included changes to the JTPA that affect individuals with disabilities. For example, job coaches have been included as support services; a requirement for performance standards and adjustments for special populations has been added; and a requirement that state education agencies work with the governor's office to develop a coordination and special services plan for school-to-work transition programs. At least 65% of adult and youth training program participants must be from hard-to-serve groups that are specified in the law (e.g., individuals with basic skills deficits, disabilities (such as learning disabilities) or homelessness among others).

As in prior developments, Congress enacted legislation and concurrently, the Office of Special Education was promoting a transition model. The transition initiative first appeared in the form of a position paper (Will, 1984) from the Office of Special Education and Rehabilitation Services (OSERS). The OSERS view of transition involves three major components: (a) the high school as foundation; (b) employment opportunities; and (c) the bridge between these two components, which provides a continuum of services. Three types of services (bridges) are provided to accomplish the transition from school to work.

The first bridge, "transition without special services" refers to the use of generic services available to anyone in

the community, even if special accommodations are necessary within these services. Postsecondary community college is an example of this type of service.

The second bridge, "transition with time-limited services," refers to specialized, short-term services where the presence of a disability is usually required to qualify a person for access to the service. Vocational rehabilitation is an example.

The third bridge, "transition with ongoing services," is often called supported employment.

The federal transition model has been criticized because it is narrower in focus and more restrictive than earlier movements. It was the sense of policy makers that a limited objective would be more feasible, fundable, and easier to evaluate, than a program with multiple objectives (Halpern, 1992).

The transition movement was raised to the level of a national priority when President Bush signed into law the Education for the Handicapped Amendments of 1990. One of the most significant changes to P.L. 94-142, was to give the act a new title. The act is now called-Individuals with Disabilities Act (IDEA). The State of Illinois passed its own transition law, Public Act 86-1218 in August of 1990. This act provides for the development of transition services for youths with disabilities in Illinois. Additionally, in 1990, the President signed the Americans with Disabilities Act

(P.L.101-336). This act is intended to reduce the barriers that prohibit individuals with disabilities from fully participating in society. The ADA is expansive; it pertains to every aspect of the employment relationship, and it is not limited to entities that receive federal funds or do business with the federal government. Like the Rehabilitation Act, this law applies to persons with visible disabilities (such as people in wheelchairs) and to persons with "invisible disabilities" (such as persons with learning disabilities).

In general, it appears, policy was initially designed to address manpower needs, but after 1968 there was a shift in policy. More recent legislation has redefined vocational education in terms of people. Current legislation has identified and focused on those handicapped and disadvantaged persons who cannot enter into or succeed in regular vocational programs. This legislation is not without its critics, who have dubbed it "feel good legislation" (Jay, 1990).

Besides a shift in philosophy, Brolin & Gysbers (1989) suggest the changes have been primarily semantic. The term handicapped became disabled and career education became transition. Vocational education also has a new name, tech-prep. Halpern (1990) refers to this development as old wine in new bottles. Whatever the names, the outcomes remain bleak. In section three follow-up studies that examine the postschool status of this population are presented.

Review of Follow-Up Studies

In this section a review of follow-up studies that were designed to investigate the postsecondary status of learning disabled adults is presented. In addition, factors that influence the postsecondary experience of the learning disabled adult are reported. In recent years considerable attention has been given to the status of young adults with disabilities, particularly those with learning disabilities.

Specific interest in the outcomes of postsecondary adjustment for the learning disabled is a consequence of the general interest in the postschool adjustment of persons with all levels of handicaps. In special education the follow-up study has been useful in providing information on how well handicapped persons adapt after graduation from high school, what they are doing, their postsecondary education, job status, and economic self-sufficiency. Mithaug (1985) states, the follow-up or follow-along study is useful for documenting the effectiveness of social programs when a demonstration of long-term outcomes is needed.

Over the past 50 years, most follow-up studies have focused on educable mentally retarded (EMR) students. This focus has implications for the current analysis of LD outcome studies. Since learning disabilities did not exist as a distinct diagnostic category until 1969, it can be assumed that higher functioning individuals in the EMR population would today be labeled learning disabled. Early studies

(Fairbanks, 1933; Kennedy, 1948) comparing EMR students with nonretarded persons reported little difference on employment dimensions. Later follow-up studies (Bobroff, 1955) reported employment rates ranging from 77% to 92% with the majority employed part-time.

A second type of vocational adjustment study is concerned with the identification of those variables which differentiate between mildly retarded adults who made successful adjustments and those who did not. Zetlin (1988) reviewed the literature that investigated several dimensions of adult adjustment for the mildly retarded individual. Her review includes the following studies by Stephens, (1964) and Stephens, Peck, & Veldham, (1968) who conducted one of the first investigations that viewed occupational adjustment as an interactive process between the individual and the environment. The authors sought to determine the manner in which interacting variables predicted success or failure. From their research on postschool performance of mildly retarded adult males, it became clear that a variety of forms of adjustment could be considered "successful" and that a profile presentation is the most adequate way of describing the success of the individual in the various dimensions of adjustment. Clusters of attributes were related to vocational outcomes and more than one successful profile was delineated. Zetlin (1988) states that more recent research corroborates these earlier investigations, in that, no clear formula with

predictive powers has emerged that will separate in advance those who will succeed from those who will fail.

The following studies provide information that looks beyond public school programs and considers what happens to the learning disabled adult. First, statewide follow-up surveys of students completing special education services are presented. These earlier surveys are inadequate because they combine disabilities (LD/BD and MR). The next section is limited to individuals who were labeled learning disabled while in school. This narrower focus is intended to provide a more accurate portrayal of LD adult adjustment.

Mithaug, Horiuchi, and Fanning (1985) conducted a statewide follow-up survey in Colorado of students completing special education services in 1978 and 1979. Twenty-six of the 45 administrative units in the state were represented. Of the total sample, 32% were LD. In regard to employment, the findings suggest that the respondents were experiencing job success, with nearly 70% reporting they were working at least part-time. Forty-three percent indicated that they earned less than \$3 dollars per hour, with 13% earning less than \$4 per hour. One-third reported that they had found the jobs themselves and that teachers and friends were more important in the job search than parents. Data on the respondents social lives indicated relatively limited activity, with a large portion receiving infrequent or no visits from others. This

raises a question regarding how independent this group is in the conduct of their social lives.

Hasazi, Gordon, and Roe (1985) conducted a statewide follow-up study (1979-1983) of handicapped youth exiting high school in nine randomly selected school districts in Vermont. Since Vermont groups students by functional level rather than disability level, subjects were grouped by resource room (N=296), special class (N=129), and other (N=26) program categories. Resource room programs are designed to serve the LD, mildly retarded, and behavioral disordered. Information was collected by reviewing records of all school leavers and, for a subset, interviewing either the individual or a knowledgeable informant. Hasazi et al. discovered that 55% of their total sample held jobs at the time of the interview; only 67% of these were full-time jobs. A history of summer jobs or part-time employment during high school significantly improved resource room students' employment and wages after high school, while nonpaid work experience during school had no significant effect. Over 80% of those graduates found their jobs through the "self-family-friend" network.

Edgar (1987) conducted a follow-up survey of eleven school districts in the state of Washington to track all special education students who had left high school. Telephone calls were made to the parents of the former students at 6-month intervals for three years. The questions covered the topics of employment status, salary, how jobs were

obtained, interactions with human resource agencies, post-school education and living arrangements. This was in conjunction with an initial study (Edgar, Levine, & Maddox, 1986) which consisted of a one-time contact with the parents of 1,292 graduates and age-outs from 1976 to 1981 from 15 Washington school districts.

Findings from this survey revealed that while up to 60% of the students were working the base salary was very low. Of the total group, only 18% earned more than the minimum wage, and if LD and behavior disordered students were removed from the sample, the percentage drops to 5%. Edgar further stated that for those who do find work, factors such as the student's ability level, family characteristics or other non-school related factors rather than educational programs seem to account for the student's success. Schalock (1986) found parent involvement is a powerful predictor of postschool adjustment, including employment.

A comparison of the data among the studies tends to be complimentary. Overall, the existing studies suggest that the majority of handicapped young adults were unemployed or underemployed. The percent employed was about 30% with full-time jobs and another 25% employed part-time. Most of the jobs involved unskilled labor or service occupations paying minimum wage. Further, these studies demonstrate the importance of a strong and broad social network since the

chief means of securing employment is through the self-family-friend network and not through social service agencies.

Studies that combine disabilities must be interpreted with caution. Edgar (1987) warns that comparing mild mentally retarded individuals to LD/BD graduates is a flawed exercise. He found major differences in gender breakdowns (MR 51% male, LD/BD 75% male); in employment rate (MR 13%, LD/BD 60%); and in the engagement rate (working or going to school) (MR 41%, LD/BD 84%); and drop-outs (MR 18%, LD/BD 42%). If the disability categories were further delineated (i.e. looking at LD only) additional significant differences may emerge. Therefore, in the following section only studies that meet the following criteria will be included: (1) the sample population must have been diagnosed as learning disabled (not mildly handicapped, BD, or any similar designation); (2) the sample population must have been adults (post-high school), at the time of follow-up; (3) the study must contain quantitative data, not case studies; and (4) the study must have appeared in the literature since 1980. The following selection does not include a complete examination of all the follow-up studies that met the above criteria but represents the general findings of the studies.

White, Schumaker, Warner, Alley, and Deshler (1980) examined the status of 47 LD young adults who had attended public school in a large suburban district and compared them to 59 non-learning disabled young adults from the same school

district. Subjects had been out of school from one to seven years. The LD students were found to hold jobs at approximately the same rate as their peers, but their jobs had less social status and the LD individuals were less satisfied with their employment situations than the comparison group. Further, the LD students were less satisfied with their school experience, had lower aspirations for further education and training, and had fewer educational plans. This is consistent with the findings of Goyette and Nardini (1985) who found that as many as 75% of all students labeled as LD leave high school without plans for obtaining a job or job training. Similarly, in a study of LD adults, aged 19-25, Vetter (1983) found that 55% held jobs of significantly lower social status than those of their age peers.

Fafard and Haubrich (1981) studied twenty-one young adults, ranging from 16.1 years old to 23.4 years of age with a mean age of 20.4 years. The subjects had all received educational services for learning disabilities as young children at the Laboratory School for Special Learning Disabilities at the University of Wisconsin-Milwaukee. Subjects and their parents were interviewed in their home to obtain: (a) demographic information, (b) school adjustment information, (c) vocational adjustment information, and (d) social adjustment information. Before presenting the results of this descriptive study it is necessary to identify several limitations. This study utilized a small, college-bound

sample from a narrow geographic region. There was no comparative data on non-learning disabled peers, and the interview technique relied on recall and perception. When the college students were removed, some needs were identified for the remainder of the sample. The findings demonstrated that additional supportive educational services were needed through high school, vocational information and training were not part of their high school experience and social adjustment was dependent on family assistance.

Interestingly, as it relates to the social skills emphasis of this project, the social adjustment results offer some curious findings. First, identification of social difficulties was not easy for young adults and they tended to avoid answering the question. Second, this was the only area in which parents and young adults differed in their perceptions. Parents expressed concern about independence beyond the family, the ability to make friends, and the quality of social interactions. Most of the subjects identified the school as a source of social interaction which may suggest a dependence on organized structure for social interaction. Attempts to move beyond the family or school structure for social purposes was not made regularly, especially for females. The authors' suggest that the social independence of the learning disabled population may be critical to the adult life adjustment.

Posthill and Roffman (1991) conducted a study at Lesley College (Cambridge, Massachusetts) Threshold Program which provides comprehensive transition programs for young adults with learning disabilities. Forty-five graduates (1984-1987), including 34 females and 11 males participated in the study. The fact that females outnumbered males, which is the reverse of the normal placement of more males than females in the learning disabilities category, reflects the female to male ratio in the program. Subjects ranged in age from 21 to 31 with mean of 24 years. The data revealed that 61% of the respondents were employed in one of Threshold's fields of training (Early Childhood or Adult Human Services), 52% had held their jobs for at least a year, and 42% held their jobs for at least 2 years. Seventy-five percent were living independently. Subjects found money management and compatibility with roommates to be the biggest challenge.

Two large-scale follow-up studies of learning disabled employment rates and adjustment dimensions are included. First, Chesler (1982) and the Vocational Committee of the ACLD, surveyed 560 adults with LD and found employment rates (full and part-time) to be 63%. He noted that the most frequently reported need for assistance was in social skills training; academic areas such as reading and spelling ranked near the bottom of the top ten concerns. Blalock (1981) commented that one of the most common complaints from her sample (students who had attended a learning disabilities

clinic) concerned the amount of time and energy expended on hiding or avoiding the problems created by the learning disability.

Second, Sitlington and Frank (1990, 1992) examined a statewide follow-up study in Iowa of 911 adults with learning disabilities. These authors' report the full-and part-time employment rate to be 77%. They further reported that 54% of the students participated in some form of postsecondary training and education. This includes community colleges, adult education, 4 year college, military service and apprenticeships.

Some investigations have studied vocational outcomes only, while others have been interested in identifying correlates and predictors of employment status in handicapped youth. These studies demonstrate that employment rates vary with gender (more males than females employed) and with severity (individuals with less severe handicaps more likely to be employed). Additional studies that examine factors associated with adult status of learning disabled individuals are reported in the following section.

Fourqurean, Meisgeier, Swank, and Williams (1991) studied 175 (62%) of students with learning disabilities who had exited four high schools between 1986 and 1989. The sample was composed of 75% males, who ranged in age from 18 to 23 years of age. In addition, this study examined a selected set of variables for predicting postsecondary employment success

for learning disabled young adults. Data for both dimensions of this study were collected through phone interviews. Overall, 86% of the sample was employed either full or part-time, with the majority in entry-level, unskilled jobs. In terms of postsecondary education, 26% had completed at least one semester of college or technical school, though at the time of follow-up only 13% were enrolled in school. An examination of the second dimension of this study revealed that students with high math ability, who were employed during high school, and whose parents actively participated in their education were more likely to experience employment success after high school. These findings were consistent with earlier research efforts.

Miller, Rzonca, and Snider (1991) provide a follow-up study that does not illuminate the percentage employed but instead, provides an identification of the variables related to the type of postsecondary education experience chosen by young adults with learning disabilities. The subjects, (n=225), chosen for this study were drawn from the Iowa Statewide Follow-up Survey in 1986, approximately one year after the subjects had graduated from or left high school. The authors' found that the type of resource to which the students were exposed seems to have affected the type of postsecondary experiences selected. For example, if the student was exposed to junior college as an option, this led to junior college participation. There was considerable

homogeneity among students attending junior college, community college, 4-year college and training school. Given the varying academic demands of the various educational settings, it is somewhat surprising that there is not a significant difference by ability level or IQ regarding postsecondary choices. This finding is consistent with a study conducted by Porter (1992) in LaCrosse, Wisconsin. He found that the severity of an individual's learning disability classification did not influence attempting to go to college versus other types of training. He further stated, that the best predictor of whether an individual would attempt to go to college was related to the parental education level.

A further review of the literature which investigated employers attitudes toward hiring disabled workers demonstrated a strong relationship between job success and interpersonal factors. An examination of employer attitudes revealed that employers perceive LD adults as misfits (Patton & Polloway, 1982). This impression was shared by employers in a study conducted by Minskoff, Sautter, Hoffman, and Hawks (1987). These researchers interviewed 326 employers from six states and found that although most employers expressed positive attitudes toward hiring and making special allowances for individuals with handicaps, this was not the case for employees identified as learning disabled. The authors identified three factors that might have been related to this

finding: (a) employers might have more positive attitudes toward handicaps that they can see, (b) many employers have not experienced working with an adult labeled as learning disabled, and (c) many employers have a limited knowledge of learning disabilities.

The findings of follow-up studies indicates that learning disabled adults are unemployed or underemployed, have vocational adjustment problems and community living problems. Some investigations have studied vocational outcomes only, while others have studied a broad range of outcomes. A common theme that resonates throughout is that limited educational experience and a learning disability handicap an individual in the employment market.

Summary

When the focus is centered on the academic difficulties that the learning disabled individual manifests, researchers and clinicians have been able to delineate sources of intervention. A program of educational strategies and interventions is easily accomplished and communicated. When the focus is broadened, to include the social domain, a more comprehensive picture of the learning disabled person emerges but not a clearer path to effective intervention.

The legislative, rehabilitative, and educational framework shaped during the late 1970's and the 1980's concentrated efforts on the provision of services to children and adolescents with learning disabilities. As the field of

learning disabilities has matured, so too, have the individuals who are labeled learning disabled. The problems experienced in childhood are frequently not the problems the learning disabled adult confronts. The adult with learning disabilities is not exclusively plagued with academic problems, but more likely, with difficulties in the vocational and social domains.

It is now recognized that a learning disability represents a lifelong disability. Much more needs to be understood about the impact of learning disabilities on the total life of the learning disabled person. The many complexities involved in serving this population require the improvement and development of secondary special education programs. Further, to assist in the transition event there is a need to strengthen and coordinate education, training, and related services.

This investigation was designed to probe to what extent LD adolescents behave like their non-LD peers in academic and work environments and to what extent there is variation within the group of LD adolescents. This approach presents an opportunity to view the LD adolescent in a broader developmental context. Not only will this study yield comparative data with non-LD peers, but it can also provide tangible feed-back to participants about the work evaluation process.

CHAPTER III

OVERVIEW OF THE METHODOLOGY

This study was undertaken to compare the correlation between the students' (LD and non-LD) rating of their work performance and the employers' rating of the students' work performance.

Descriptive information regarding the procedures used is presented in this chapter. This discussion includes criteria for subject inclusion, presentation of the descriptive group variables and the analyses performed.

The following research questions were posed to investigate this relationship.

(1) Are there differences between the employers' ratings of LD and non-LD students job performance and the students' (LD and non-LD) self-ratings of job performance?

(2) What is the correlation between employer ratings and student (LD and non-LD) ratings of job performance?

(3) Is the socio-economic status of LD and non-LD students related to job performance ratings?

(4) Is the math achievement level of LD and non-LD students related to job performance ratings?

(5) Is the reading achievement level of LD and non-LD students related to job performance ratings?

Hypotheses

The following null hypotheses may be generated from the research questions.

(1) a. There is no significant difference in employer ratings of job performance across the group membership condition (LD and non-LD students).

b. There is no significant difference in self-ratings of job performance across the group membership condition (LD and non-LD students).

(2) There is no significant difference in the correlation of self and employer rating across the group membership correlations (LD and non-LD).

(3) There are no significant relationships among employer ratings, students' group membership (LD, non-LD), and socio-economic status.

(4) There are no significant relationships among employer ratings, students' group membership (LD, non-LD), and math achievement level.

(5) There are no significant relationships among employer ratings, students' group membership (LD, non-LD), and reading achievement level.

Criteria for Sample Selection

Two groups of students; learning disabled (LD), and non-learning disabled (non-LD), who were sophomores, juniors, and seniors participated in this study. All of the students were enrolled in the work study program at their respective high

schools. The data set was collected from two suburban high schools and seven urban high schools. Thus, the pool of student participants was derived from the categorical placement (LD or no special services) and the curricular placement (work study program).

The students in the LD group had been school identified as learning disabled through the rules governing special education. In addition to meeting the legal definition of Learning Disabilities, participants had no physical or sensory handicaps (hearing or vision). The LD students were enrolled in a Resource Room for one or two periods a day, or were on consultative status. The work study programs represented were listed in the program planning guides as Cooperative Vocational Experience. Separate entries (for regular and special education work-study programs) were found in the guide. Although listed separately, the programs shared a common structure (students receive a period of classroom experience coupled with supervision of their employment placement) and a common goal (students receive practical on-the-job training while still in school). The following course descriptions further illustrate the equivalency of the programs. The regular education program was described as: "In class, students explore the world of work, including techniques and skills needed in today's job market (job applications, interviews, resumes, interpersonal skills), occupation and economic information and personal financing.

Students work in various businesses and industries according to their abilities and interests." The program guide provided the following description for the special education work study program; "The class phase provides academic and attitudinal units designed to help the student gain and retain employment. In the work phase, students are placed on job sites both on and off campus. Special care is taken to match the student's abilities with the chosen job." The specific work study program, office occupations had the following course description: " A vocational course in office skills and practices providing instruction with various office machines (copy, calculators, word processors, electronic typewriters, microcomputers) as well as in filing, general office procedures, word processing, spreadsheets, language skills and personality development." Classroom study was coordinated with supervised, on-the-job training (15-20 hours per week) at a local business office. The differences in the special education and the regular education programs, as outlined in the planning guides, were that the non-LD students' program took the individual student's interests into account and provided more direct instruction. Although, the special education work study program was structurally similar, the class size was smaller (i.e. not to exceed 15 students) and the students often received closer job supervision. All course descriptions included a component designed to address interpersonal skills.

In order to select eligible subjects, the request for LD students enrolled in work study programs was made to the special education department chair. Each director was asked to recommend classrooms in which there was a preponderance of students who met the criteria. Non-LD students were identified by the directors of the work study programs. The individual teachers of the identified classrooms were contacted, and permission to talk to the whole class about the study was requested. The potential pool of students was invited to an informational meeting in which the research project was explained and consent forms were distributed. Parental, as well as, student consent was obtained. The students were told that the study provided them with an opportunity to participate in the employment assessment process. After the presentation and a question and answer period, interested students were given written consent forms (see Appendix A). The initial groups consisted of 42 LD and 56 non-LD students. However, for 24 non-LD students, the investigator was unable to collect the achievement data or the employer rating forms. The sophomore LD students (n=7) were also excluded since a comparable group of non-LD sophomores was not available. The final number of student participants in each group was 35 LD, and 32 non-LD students (total n=67). Survey data was available for 98 students.

To establish the equivalency of these non-randomly selected groups on variables not under investigation, the following comparisons were made:

(1) Age: The Chi-Square test of independence was computed on age for the two groups. The Chi-Square test did not yield a significant difference for age between the two groups (0.5091; n.s.). See Table 1 for a descriptive summary of results.

TABLE 1
Characteristics of LD and Non-LD Samples

Subject Characteristics	LD Students (n=35)		Non-LD Students (n=32)	
	n	%	n	%
Sex				
Male	23	65.7	12	37.5
Female	12	34.3	20	62.5
Race				
White	5	14.3	11	34.4
Black	16	45.7	12	37.5
Hispanic	14	40.0	9	28.1
Grade				
11th	12	34.3	5	15.6
12th	23	65.7	27	81.4
Age	X 17.3	SD (.598)	X 17.2	SD (.581)

(2) Sex: Given the disproportionate number of LD males to females, it was not surprising that the majority of the LD sample was male 66% (n=23) and female 34% (n=12). For the non-LD group the distribution was in the opposite direction

(males 38%, $n=12$) and females 63%, $n=20$). The Chi-Square test did yield a significant difference between the two groups across genders ($5.33 = p<.02$).

(3) Race: Racial composition of the LD group was White 14% ($n=5$), Black 46% ($n=16$), and Hispanic 40% ($n=14$). For the non-LD group; Whites represented 35% ($n=11$), Blacks 38% ($n=12$), and Hispanics 28% ($n=9$). Here the Chi-Square test did not yield a significant difference between the two groups with respect to race (3.78 ; n.s.).

(4) Grade: Students from both groups were more likely to enroll in the work study program in their senior year of high school. For the LD group, 11th grade ($n=12$), 12th grade ($n=22$), compared to the non-LD group 11th grade ($n=5$), 12th grade ($n=28$). Once again, the Chi-Square test did not reveal a significant difference between the groups with respect to grade level (3.074 ; n.s.).

(5) Socioeconomic status: The Two Factor Index of Social Position (Hollingshead, 1965) that assigns a Social Class numerical category based on both type of occupation and educational level of the head of household was computed for each participating student. Socioeconomic status (SES) was determined by asking students to identify their mother's and father's occupations. It was necessary to modify the Hollingshead Index because information regarding the educational level of the parents was not available. A second modification was made in order to gain a more

comprehensive picture of the students socio-economic status. The numerical values assigned to each parent's occupation was combined for a total SES score (Table 2 displays the occupational distribution of both fathers and mothers, as reported by students in the survey interview).

TABLE 2
Parental Occupation Distribution

Category	Groups					
	LD			Non-LD		
	Father+Mother=Total			Father+Mother=Total		
1.Higher Executives	0	0	0	0	0	0
2.Business Managers	0	1	1	0	0	0
3.Administrative Personnel	3	0	3	5	2	7
4.Clerical, Sales, Technicians	1	5	6	0	11	11
5.Skilled Manual Employees	13	14	27	16	14	30
6.Machine Operator, Semi-Skilled	7	7	14	0	0	0
7.Unskilled Employees	0	9	9	0	1	1

Missing Cases; student report, parent not in the home

Overall, the SES level of participants appears to consist of individuals whose parents fall into the clerical, skilled manual, semi-skilled, and unskilled groups. A Chi-Square test did not yield a significant difference in socioeconomic status between the two groups (14.93; n.s.).

Tests of math and reading achievement were also administered to all participating students in order to provide additional descriptive achievement information across the two groups. Separate t-tests were computed to compare sample means to determine if the samples came from different populations. As expected (given the definition of learning disabilities), significant differences were found for the achievement variables of math and reading.

(6) Math: The Wide Range Achievement Test-Revised was administered to all participants (see Tables 3 and 4 for a summary of group means, standard deviations, and t-test information for the achievement variables).

(7) Reading: The Monroe-Sherman (paragraph understanding) Test was also administered to participating students to assess reading achievement.

TABLE 3

T-Test Group by Math

Group	X	SD	t value	DF	2 tail probability
LD	4.75	1.57	-5.10	65	0.0001
Non-LD	6.56	1.29			

TABLE 4

T-Test Group by Reading

Group	X	SD	t value	DF	2 tail probability
LD	4.60	1.42	-10.20	65	0.0001
Non-LD	8.05	1.34	-10.20		

Descriptive statistics were generated for the job traits evaluated on the Student Rating Form. The rating form ranged from a low of one to a high of four (see description of rating form in instrumentation section). The means and standard deviations for the nine job traits on which employers and students rated job performance are displayed in Tables 5 and 6.

TABLE 5

Employers' Rating of Students (LD and Non-LD)

	LD		Non-LD	
	X	SD	X	SD
Ability to Get Along	2.29	(.774)	1.75	(.762)
Appearance and Grooming	2.21	(.717)	1.97	(.861)
Ability to Accept Criticism	2.57	(.590)	2.31	(.859)
Dependability	2.38	(.854)	2.03	(.861)
Ability to Follow Directions	2.48	(.833)	2.22	(.751)
Quality of Job Performance	2.55	(.803)	2.34	(.787)
Amount of Daily Work	2.60	(.734)	2.34	(.653)
Understands Schedule	2.36	(.692)	2.09	(.734)
Uses Appropriate Speech	2.50	(.595)	2.53	(.718)
Means for items 1-9	2.44	(.554)	2.18	(.584)

TABLE 6
Students' (LD and Non-LD) Self-Rating of Job Performance

	LD		Non-LD	
	X	SD	X	SD
Ability to Get Along	1.79	(.782)	1.94	(.878)
Appearance and Grooming	1.81	(.890)	1.94	(.801)
Ability to Accept Criticism	2.33	(.928)	2.22	(.906)
Dependability	1.43	(.668)	1.94	(.801)
Ability to Follow Directions	1.50	(.707)	1.62	(.833)
Quality of Job Performance	1.74	(.701)	1.84	(.767)
Amount of Daily Work	1.67	(.754)	1.97	(.782)
Understands Schedule	1.52	(.833)	1.44	(.619)
Uses Appropriate Speech	1.83	(.935)	1.97	(.967)
Means for items 1-9	1.74	(.888)	1.88	(.519)

Separate Cronbach alphas were computed to assess internal consistency for items rated by employers and students. The employer ratings yielded a Cronbach alpha of .9060 while the student ratings yielded a Cronbach alpha of .8130. There were no negative indicators for either group and thus, no items were removed.

Instrumentation

The data was gathered through (a) student interviews, and (b) student/employer completion of the Student Rating Form. The design and administration of these instruments is described in this section.

Student Interviews

An interview protocol (Survey Form) was developed for use in structured student interviews to gather information about the variables under investigation. The development of the survey protocol was based on questions used in follow-up studies of LD and non-LD students (Shapiro, 1988). The questions were written to tap demographic information and parental employment (to establish socioeconomic status), level of participation in high school activities, method of securing the student's present job, and plans, if any, regarding postsecondary training or employment. Potential problems of LD students having difficulty with reading and written expression was circumvented using interviews that required only oral responses. The survey was easy to administer and to interpret (see Tables 7-11 for descriptive analysis of survey information). It should be noted that all interviews were conducted by this investigator.

TABLE 7
How Participants Obtained Current Job

Group	Self	Teacher	Family	Friend
LD	7 (16.6%)	21 (50%)	6 (14.3%)	8 (19.1%)
Non-LD	19 (33.9%)	24 (42.9%)	7 (12.5%)	6 (10.7%)

TABLE 8
Type of Work-Study Job

	LD	Group	Non-LD
In-School	20 (47.6%)		8 (14.3%)
Fast Food Industry	7 (16.6%)		6 (10.7%)
Geriatric Centers	2 (4.8%)		2 (3.6%)
Factory	1 (2.3%)		2 (3.6%)
Maintenance	2 (4.8%)		1 (1.8%)
Retail	6 (14.3%)		15 (26.8%)
Office Work	4 (9.6%)		16 (28.6%)
Other	0		6 (10.3%)

TABLE 9

Comparative Study of Participants
Affiliation with School Clubs

Group	Yes	No
LD	12 (28.6%)	30 (71.4%)
Non-LD	19 (33.9%)	37 (66.1%)

TABLE 10

Participants Future Educational Plans

Group	Yes	No
LD	30 (71.4%)	12 (28.6%)
Non-LD	49 (87.5%)	7 (12.5%)

TABLE 11

Type of Future Plans

Group	College	Jr. College	Trade School	Job Training	Military
LD	15 (35.7%)	4 (9.5%)	6 (14.3%)	1 (2.3%)	12 (28.6%)
Non-LD	36 (64.3%)	1 (1.8%)	9 (16.1%)	2 (3.6%)	7 (12.5%)

Student Rating Form

The Student Rating Form (see Appendix C) was patterned after the rating card used in the urban schools sampled. In an attempt to simplify the card, it was enlarged and only the first marking period was displayed. The ratings of Outstanding, Above Average, Average, and Below Average were conceptualized as referring to the grades the students receive in school (A,B,C,D). Also, in an effort to capture a more comprehensive employment picture, the rating form was expanded to include additional employment characteristics. The Student Rating Form was designed to assess the following job characteristics: ability to get along with others; appearance and grooming; ability to accept criticism; dependability (attendance & punctuality); ability to follow directions; quality of job performance; amount of daily work; ability to understand the work schedule; and use of appropriate speech.

Procedure

This study was conducted at the end of the students' first grading period (late October to early November). Several procedures were used to collect data. Data collection procedures were influenced by the preferences of the schools and the work study teachers. These variations in procedures are explained in this section. The students either completed the rating form individually or in small groups (2-3 students). It should be noted that this investigator was

present to answer any questions and/or provide clarification about the job descriptors listed on the rating form. The job descriptors were read aloud as the students' marked their responses on the rating forms. This method was used to reduce any difficulties with literacy and to ensure that the forms were accurately completed. The participating employers were asked to rate each student-employee on the same Student Rating Form.

In the business work study program, the Student Rating Form was mailed to the employers. The investigator wrote to each student's employer, described the research project, verified that both parental and school permission had been obtained, and enclosed the Student Rating Form with a self-addressed stamped envelope (see Appendix D). All of the employers contacted returned the completed forms. In all other classes, the work study teachers, as part of their teaching responsibilities, collected the Student Rating Form from the employer and gave them to this investigator. This procedure was less effective, requiring repeated requests for completed rating forms.

CHAPTER IV

RESULTS

This chapter presents and summarizes the findings of this investigation. The hypotheses were tested using multiple analysis of variance, Pearson product-moment correlations, and Fisher's z' transformation for independent samples. In addition, post hoc analyses were performed on those variables that yielded statistically significant relationships with the rating of job performance.

The first hypothesis contains two parts; (a) there is no significant difference in employer ratings of job performance for LD and non-LD students, and (b) there is no significant difference in the self-ratings of job performance between LD and non-LD students.

The results of the nine dependent measures of employer rating across the independent condition of group membership (LD and non-LD) are summarized in Table 12.

TABLE 12

Multivariate Analysis of Variance (MANOVA) of Employer Rating of Job Performance by Group (LD and Non-LD Students)

Test Name	Value	Exact F	Hypo DF	Error DF	SigF
Pillais	.16119	1.2170	9.00	57.00	.303
Hotellings	.19216	1.2170	9.00	57.00	.303
Wilks	.83881	1.2170	9.00	57.00	.303

No main effect for employer rating by group membership was found. This indicates there were no significant differences in employer ratings across the LD and non-LD students. Given these findings null Hypothesis 1 (a) was not rejected.

Hypothesis 1 (b) states there is no significant difference in self-rating of job performance between LD and non-LD students. The results of the nine dependent measures for self-rating between the independent condition of group membership is displayed in Table 13.

TABLE 13

Multivariate Analysis of Variance (MANOVA) of Self-Rating of Job Performance by Group (LD, Non-LD)

Test Name	Value	ExactF	Hypo DF	Error DF	SigF
Pillais	.33329	3.16609	9.00	57.00	.004
Hotellings	.49991	3.16609	9.00	57.00	.004
Wilks	.66671	3.16609	9.00	57.00	.004

The analysis of Hypothesis 1 (b) revealed a main effect for self-rating by group membership. This indicates that there is a significant difference in the self-rating of job performance traits for the two groups of students (LD and non-LD). Therefore, null Hypothesis 1 (b) was rejected.

Hypothesis 2: There is no significant difference in the correlation of self and employer rating across group membership correlations (LD and non-LD).

Pearson correlation coefficients were performed on the mean of the employers' rating and on the mean of the students' self-rating for each group (LD and non-LD). The correlations between the mean of the employer rating and the mean of the student (LD, non-LD) self-rating were found to be significant (Table 14).

TABLE 14

Correlation of Mean Rating of LD and Non-LD students with
Mean Employer Rating

LD	Non-LD
.4559 p=.003	.3201 p=.037

A Fisher's z' transformation for independent samples (Cohen & Cohen, p. 54, 1983) was performed to test the significance of the difference between the correlation coefficients obtained for the LD and the non-LD student groups. The results ($z=.64$, $p=.26$) were not significant. Therefore, null Hypothesis 2 was not rejected. This means

there is no significant difference between the LD students and the non-LD students correlation of self-ratings with employer ratings.

Hypothesis 3: There are no significant relationships among employer ratings, students' group membership (LD, non-LD), and socio-economic status.

Originally, a MANOVA was planned using a 2 (Group: LD vs. Non-LD) by 3 (SES: High, Medium, and Low). Insufficient cell size in the high SES category did not support the use of this design. Therefore, a median split for the SES variable (Medium, Low) was used. The resulting MANOVA used a 2 (Group: LD vs. Non-LD) by 2 (SES: Medium, Low) design. The results of the nine dependent measures across the independent conditions of group membership (LD, Non-LD) and socio-economic status are shown in Table 15.

TABLE 15

Multivariate Analysis of Variance (MANOVA) of Employer Rating of Student Job Performance by Socio-Economic Status by Group

Test Name	Value	ExactF	HypoDF	Error DF	SigF
Pillais	.10701	.73229	9.00	55.00	.678
Hotelinings	.11983	.73229	9.00	55.00	.678
Wilks	.89299	.73229	9.00	55.00	.678

No main effects or interaction effects were found for employer rating on the nine job descriptors by either socio-economic status or group membership. Given these findings,

null Hypothesis 3 was not rejected. This indicates that the socio-economic status of the student did not make a significant difference in the employer ratings.

Hypothesis 4: There are no significant relationships among employer ratings, students' group membership (LD, non-LD), and math achievement level. A MANOVA was performed using a 2 (Group: LD vs. Non-LD) by 2 (Math Achievement: Low, High) design. Initially, the achievement scores were broken into low, medium, and high but this trichotomy resulted in some empty cells. To compensate for this situation, the achievement scores were dichotomized as low and high. Low encompassed scores through 5.9 and high encompassed all scores above 6.0. The categorical distribution was LD (low n=25, high n=10); non-LD (low n=7, high n=25). The results of the nine dependent measures and math achievement are shown in Table 16.

TABLE 16

Multivariate Analysis of Variance (MANOVA) of Employer Rating of Student Job Performance by Math Achievement Level by Group

Test Name	Value	ExactF	Hypo DF	Error DF	SigF
Pillais	.16314	1.19131	9.00	55.00	.319
Hoteling	.19494	1.19131	9.00	55.00	.319
Wilks	.83686	1.19131	9.00	55.00	.319

No main effects or interaction effects were found for employer rating on the nine job characteristics by either math achievement level or group membership. Given these findings,

null Hypothesis 4 was not rejected. This indicates that the math achievement level of the student did not make a statistically significant difference in the employer ratings of the students' job performance.

Hypothesis 5: There are no significant relationships among employer ratings, students' group membership (LD, non-LD), and reading achievement level. Again, a MANOVA using a 2 (Group: LD vs. Non-LD) by 2 (Reading Achievement: Low, High) design was performed. The initial attempt to trichotomize the reading achievement scores (low, medium, and high) resulted in empty cells. Therefore, the reading achievement scores were dichotomized into low (up to 5.9) and high (6.0 and above). The distribution was LD (low n= 26, high n=9) and non-LD (low n=2, high n=30). The results of the nine dependent measures and reading achievement level by group are shown in Table 17.

TABLE 17

Multivariate Analysis of Variance (MANOVA) of Employer Rating of Student Job Performance by Reading Achievement Level by Group

Test Name	Value	ExactF	Hypo DF	Error DF	Sig of F
Pillais	.13485	.95251	9.00	55.00	.489
Hotellings	.15567	.15587	9.00	55.00	.489
Wilks	.13485	.13485	9.00	55.00	.489

There were no main effects or interaction effects for reading achievement level by employer ratings or group membership. Therefore, null Hypothesis 5 was not rejected.

This indicates that the reading achievement level of the student did not make a significant difference in the employer ratings. It should be noted that, group membership (LD, non-LD) did approach significance at .060.

The second section of this chapter presents post hoc analyses of the data to determine the relationship of the variables under investigation to the ratings of job performance. The decision to perform additional exploratory analyses was prompted by the failure to reject all but one of the null hypotheses under investigation.

The same statistical procedures used for the employer ratings of students' job performance were used to test for the significance of the student self-ratings of job performance. Three MANOVAs were performed on the nine dependent measures of job performance: Groups(2) by Math(2); Groups(2) by Reading(2); and Groups(2) by SES(2). The Groups(2) by Math(2) MANOVAs yielded a significant main effect for groups ($F(1,63) = 2.53$, $p < .05$, using a Wilks' lambda). To determine specifically where the significant effect existed, univariate F-tests were systematically examined. SRATE4 (Dependability) was found to be significant ($F 1,63 = 12.58$, $p < .001$). In addition, SRATE7 (Amount of Daily Work) approached significance at .073. For student ratings of Dependability, the LD students had a mean rating of 1.43 with a standard deviation of .668. The non-LD students had a mean rating of 1.94 with a standard deviation of .801. There was no

significant main effect for Math and no significant interaction effects.

For Reading and SES, no significant main effects nor interaction effects were found. These results suggest that neither employer ratings nor student self-ratings were significantly influenced by the variables of Math, Reading, or SES.

The second post hoc analysis was performed on the data set related to testing null Hypothesis 2. Since no significant differences were found for either the aggregated measure of employer ratings or student ratings, these findings prompted an analysis of the individual job descriptors. Post hoc correlation coefficients were utilized to examine the relationship of the individual job characteristics rated by the students (LD and non-LD) with employer rating of the same job characteristics. Table 18 displays the individual job characteristics and the correlations across groups.

A Fisher's z' transformation for independent samples was computed for each employer-student (LD, non-LD) pair. The results obtained from individual Fisher's z' tests found no significant differences for any of the individual traits which is consistent with not rejecting the null hypothesis for the combined measure. The job characteristic (Ability to Follow Directions, $p = .072$) did approach significance. This finding indicates that there is a difference between the groups. However due to the large number of z' tests performed, with

only one approaching significance, these results are considered to be suspect.

TABLE 18

Job Performance Characteristics: Correlation between LD and Non-LD Students' Self-Rating with Employer Rating.

	LD	Non-LD
JOB CHARACTERISTICS	r	r
1. Ability to Get Along with Others	.148	-.024
2. Appearance and Grooming	.265	.231
3. Ability to Accept Criticism	.097	.324
4. Dependability (Attendance/Punctuality)	.371*	.331
5. Ability to Follow Directions	.551*	.239
6. Quality of Job Performance	.473*	.199
7. Amount of Daily Work	.247	.211
8. Ability to Understand Schedule	.458	.333
9. Uses Appropriate Speech	.168	.257

*indicates significance at .05 (2-tailed)

To determine the relationship between the students' place of employment and the employers' rating of the students' job performance, type of work-study job was recoded into place (in-school and out-of-school) of employment. The means and standard deviations for employer rating by group (LD, non-LD) and place are shown in Table 19.

TABLE 19
Mean Employer Rating by Group and Place of Employment

	X	SD
<hr/>		
LD		
In-School (n=13)	21.8	5.2
Out-of-School (n=22)	21.5	4.9
Non-LD		
*In-School (n=1)		
Out-of-School (n=31)	19.8	5.2
*not computed, insufficient N		
<hr/>		

The learning disabled students employed in-school received a higher mean rating than the students' (LD, non-LD) employed in settings outside of school. To determine if the difference in the mean ratings is significant, a one-way analysis of variance (group by place) was computed. The Anova did not yield a significant main effect for groups or places. There was no interaction effect. This indicates that although the LD students employed in school received higher employer ratings, the degree of the difference was not significant.

To investigate the achievement variables of math and reading as factors in the students' place of employment, two separate t-tests (math by place; reading by place) were performed. The results of the t-tests indicate that the mean math and reading scores are significantly different for place of employment (see Tables 20 and 21). A two-tailed t-test confirmed the assumption that the students employed outside of school had significantly higher math and reading scores.

TABLE 20

T-Test Math by Place:

	Mean	SD	t value	DF	2 tail
In-School (n=14)	4.20	1.33	-3.83	65	0.001
Out-of-School (n=53)	5.99	1.59			

TABLE 21

T-Test Reading by Place:

	Mean	SD	t value	DF	2 tail
In-School (n=14)	4.26	1.54	-4.25	65	0.001
Out-of-School (n=53)	6.78	2.06			

A series of post hoc discriminant analyses were computed in order to examine how the job characteristics could be combined to best differentiate between the groups. All discriminant functions were obtained using the nine job

performance variables, place of employment, SES, Math and Reading achievement scores. Separate stepwise discriminant analyses were performed for the employer ratings, for the student ratings and the combined employer-student ratings. Classification analyses were also performed for these variables to determine how well the discriminant function would predict group membership.

The results of the first discriminant function with employer ratings are displayed in (Table 22).

TABLE 22
Discriminant Function Analysis for Employer Rating
Summary Table

Step	Entered	Wilks	Sign.	Label
1	Reading	.38469	.000	
2	ERATE6	.36152	.000	Quality of Job
3	ERATE2	.34773	.000	Appearance/Grooming
4	ERATE9	.34074	.000	Appropriate Speech
5	ERATE3	.32914	.000	Accept Criticism

Five significant canonical discriminant functions emerged with a canonical correlation of .819 and an eigen value of 2.038.

The second discriminant function was run with student rating. Table 23 provides a summary of the Wilks lambda values for the variables found to significantly contribute in

the comparison between the LD and the non-LD students' rating of job performance.

TABLE 23
Discriminant Function Analysis for Student Rating
Summary Table

Step	Entered	Wilks	Sig.	Label
1	Reading	.38469	.000	
2	SRATE4	.32906	.000	Dependability
3	SRATE7	.31124	.000	Amt. of Daily Work
4	Place	.30598	.000	

The results reveal more discrimination among student ratings than for employer ratings of students' job performance. For both the employer and student ratings, reading significantly discriminated the LD from the non-LD groups. This finding indicates that there is some stability between the employer and student ratings. The student ratings had an eigen value of 2.26822 and a canonical correlation of 0.833. Table 24 provides a classification analysis based on this discriminant function. Results are the same as those obtained for the employer ratings of job performance that showed that 91.04% of the cases were classified accurately, with equal differences in the groups.

TABLE 24

Classification Analysis for LD and Non-LD Students for
Employer and Student Rating of Job Performance.

		Predicted Group Membership		
Cases		LD	Non-LD	Total
Actual Group Membership	LD	32	3	35
	Non-LD	3	29	32

Finally, the third discriminant function included both employer and student ratings with the same variables (Table 25) to determine whether the combined employer and student ratings provided a substantially different set of outcomes.

TABLE 25

Discriminant Function Analysis for Employer/Student Rating
Summary Table

Step	Entered	Wilks	Sig.	Label
1	Reading	.38469	.000	
2	SRATE4	.32906	.000	Dependability
3	SRATE7	.31124	.000	Amt. of Daily Work
4	ERATE6	.30320	.000	Quality of Job
5	ERATE2	.28474	.000	Appearance/Grooming
6	ERATE4	.27529	.000	Dependability
7	SRATE5	.27061	.000	Follow Directions
8	ERATE7	.27432	.000	Amt. of Daily Work
9	SRATE3	.26341	.000	Accept Criticism
10	ERATE1	.25720	.000	Ability to Get Along
11	ERATE9	.25255	.000	Appropriate Speech

When both employer and student ratings are included in the analysis, eleven of the variables significantly contributed to the discriminant function. The combined student and employer ratings had an eigen value of 2.95 and a canonical correlation of .864. Table 26 provides a classification analysis based on this discriminant function. When both employer and student ratings are included in the analysis, the success at predicting group membership rose to 95.5%. All of the LD cases were accurately classified, and again three of the non-LD cases were incorrectly classified.

TABLE 26

Classification Analysis for LD and Non-LD Students with Combined Employer and Student Rating.

		Predicted Group Membership		
		LD	Non-LD	Total
<hr/>				
Cases				
Actual Group Membership	LD	35	0	35
	Non-LD	3	29	32
<hr/>				

The current trend in special education endorses a philosophy of inclusion. The inclusive model provides for the delivery of special education services within the regular classroom. In light of this development, a new model was constructed to supersede the diagnostic label of learning disabilities. The new model reconceptualizes the distinction between LD and non-LD into ability grouping (low achievers, average achievers, and high achievers). The ability groups

were defined in terms of grade equivalents: low, (math to 3.9 and reading to 4.9); average, (math 4.0 to 6.9 and reading 5.0 to 7.9); high, (math 7.0 and above and reading 8.0 or above). The ability groups are Low achievers $n=20$, Average achievers $n=37$, and High achievers $n=10$.

The first analysis performed was directed at examining the students' place of employment by ability level. A Chi-Square test yielded a significant difference between the ability groups ($15.167 = p < .001$). This finding was consistent with the t-test that indicated that students with higher math and reading achievement scores were more likely to work in jobs outside of the school.

Although the students' math and reading achievement levels defined place of employment, a further analysis of job performance ratings was conducted by ability groups. A one-way analysis of variance was computed for the mean employer ratings on the nine job performance characteristics for the three ability groups. An additional one-way analysis of variance was computed for student ratings of job performance for the three ability groups. While, the student self-ratings did not yield significant differences across the three ability groups, the ANOVA for the mean employer ratings did yield significant differences across the three ability groups $F(2,64) = 5.349, p < .05$.

The means and standard deviations for employer ratings by ability groups are displayed in Table 27. The students in the

low ability group received a higher mean rating for employer rating of job performance than the students in the average and high ability groups. The employer ratings of job performance for students in the low ability group was found to be significantly different from the ratings received by the students in the high ability group.

TABLE 27

Means and Standard Deviations for Employer Rating
by Ability Groups

Ability Groups	X	SD
Low	2.57	.494
Average	2.25	.544
High	1.90	.422

Pooled Tukey tests showed that the difference was significant between the low achieving group and the group designated high achievers at the .05 level. The difference between the other groups was not significant.

CHAPTER V

DISCUSSION

This study was designed to examine adolescents (LD and non-LD) enrolled in high school work study programs. The purpose of this investigation was to examine the ratings of work performance, both by employers and by students, as they relate to the students' status as LD or non-LD. Given the current commitment to the transition of not just severely disabled adolescents, but those with mild to moderate disabilities as well, the effort to investigate the transition of learning disabled adolescents from school to work was seen as timely.

Five null hypotheses were tested and survey data was generated to probe these relationships. Each hypothesis was based on previous research and theory that suggested a possible connection between adolescents with learning disabilities and the transition event. In this chapter, the findings are discussed in the order that the Hypotheses were listed in Chapter 3, followed by an examination of the study's limitations. Implications and program recommendations based on the results of this study and suggestions for future research are also provided.

The present study found no significant differences on measures of social competence between the learning disabled students and the non-learning disabled students for social competence with respect to the employer ratings of work performance. Findings of prior research regarding the social competencies of LD and non-LD populations are not consistent with not rejecting null Hypothesis 1. This finding of no significant difference merits some concern. This outcome may have been confounded by the students' place of employment (in-school, or out-of-school) where different standards may have been applied by competitive and noncompetitive employers.

It should be noted that the students' place of employment was not controlled as an apriori variable but emerged as a variable during the analysis of the data set. The context in which the student is employed and thus the varied setting demands appears to influence employer ratings in several ways. First, in-school job placement is reserved for those students with the lowest academic functioning. This was confirmed by examining the achievement levels of the students with in-school and out-of-school employment. When divided into groups by place of employment, there was a statistically significant difference between achievement levels. The students with higher achievement levels held jobs in competitive employment settings, whereas the students with lower achievements held in-school jobs. Given the lower achievement levels for the LD students, it is not surprising that all but one of the

students with in-school employment was learning disabled.

Second, in-school job placement provides work suited to the student's academic abilities, so failure may be reduced. In these circumstances, in which students experience success, the heightened self-respect gained may change the nature of their social interaction with both their employers and co-workers.

Third, the student's place of employment may influence the nature of the supervisory relationship. Namely, the great amount of professional support and monitoring of the students supplied by the special education work study teacher and the expressed willingness of the on-site supervisor to train and supervise a worker with special needs could impact the supervisor's assessment approach. The supervisory relationship is also influenced by the goal of the employment site. When the bottom line is productivity, the employment setting is less tolerant and less able to provide accommodations for disabled workers. In-school jobs tend to be less product oriented than competitive employment and are able to accommodate a wider range of employer needs. In addition, a less realistic appraisal of the student's job performance may occur in an employment setting in which the employer has no other frame of reference (all employees have disabilities) or the employer has a connection to the work study program.

Four, an in-school job assignment simplifies many aspects of employment. The student is both at school and at work. There is a continuity between work and school and this may influence the students' behavior patterns. The interconnectedness of the school-work relationship simplifies many aspects of employment such as scheduling, clarification of expectations, and providing explanations to supervisors. These are the very traits on which students are assessed by their employers.

Also, the learning disabled students in this study who have had special education services for all of their school careers and are hyper-attuned to teacher expectations may have developed a pattern of attitudes that interrelate better with adults, than with non-disabled peers. In-school job placement may serve to further reinforce behavior patterns that depend on adult approval.

In addition to the confounding effects of place of employment, the lack of differences in social skills reported here that conflicts with some earlier research findings may be due to the nature of the control group used in this study. That is, the control group may have shared characteristics with the LD group that tended to reduce differences along dimensions tapped by the rating scales. The sample was very homogeneous in terms of socio-economic status, and academic achievement level (while significantly higher for the non-LD group, achievements were relatively depressed in comparison to

the overall expectations for high school juniors and seniors). This homogeneity may account for the lack of variability between the LD and non-LD groups. Therefore, while previous researchers have found social skills deficits associated with learning disabilities, the present investigation found little variability in interpersonal skills for the two groups.

This investigation did find a significant difference in the self-ratings of job performance for the two groups of students. This result was seen as supporting the second component of Hypothesis 1 (i.e. the students in the non-LD group displayed a more positive self-assessment of their job performance than did the students with learning disabilities). In the interpretation of this finding, place of employment again emerged as a possible influence. There may be some stigma attached to working at school, and the students with in-school employment may view in-school job placement as less important and thus, more critically rate their job performance. Erikson (1956) stated, that one of the developmental demands of adolescents is to acquire a sense of self, which is in part, the result from an arrangement of ego interests in which one feels competent. The students with in-school jobs may feel less competent and thus rate themselves lower than their non-disabled peers.

The results of this investigation did not support the rejection of null Hypothesis 2. In accordance with the

findings discussed in the literature review section (Chapter II), it was expected that the patterns of correlations between the LD students' self-ratings of job performance and the employers' ratings of the students' job performance would be different from that of the group without learning disabilities. While the mean correlations between employer and student (LD, non-LD) were found to be significant, the magnitude of the correlations between the two groups were not found to be significantly different from each other. An examination of the patterns of correlation revealed that the correlations were in the same direction but that the magnitude of the correlations for the non-LD group were not as great as the LD group. The finding of no significant differences between the two groups on the aggregate measures prompted a post-hoc analysis of the nine individual job characteristics to determine if there were any significant differences between the two groups on any items. No significant differences were found between the two groups on any of the job traits. This finding should be interpreted with caution as the Fisher's z' transformation for independent samples is not a robust measure and therefore, may be unable to detect small differences on the individual job traits.

While the results of the correlational analyses utilized to test null Hypothesis 2 were counter to the findings of prior researchers, the results were consistent with the findings related to testing the first Hypothesis of this

investigation. The same factors that influenced the results related to testing Hypothesis 1 may explain the finding of no significant differences in the results related to testing Hypothesis 2 as well. The problems with the control groups similarity to the LD group combined with the confound resulting from place of employment may have produced an unclear picture of how these variables interacted with one another and may have blurred possible between group differences.

Hypotheses 3, 4, and 5 (related to socio-economic status, math achievement and reading achievement), were structured to determine which variables were related to employer ratings of job performance. First, the finding of no significant difference for SES requires some explanation. The restricted range of this sample to predominantly lower to lower-middle class participants limits the detection of any SES effects that would be seen if the SES variable were greater. Nevertheless, even if non-significant in this study, SES may mask a whole array of variables such as financial resources to provide special help, educational motivation, access and pressure to obtain school services, and the ability to provide employment opportunities for their children. These variables are difficult to isolate, and SES as a composite variable is probably the best marker of the above variables when an adequate SES range can be provided.

Second, there was no significant relationship found for employer ratings by group membership by math achievement level. While there was no significant main effect found for math achievement in this study, math has been cited in the literature (Fourqurean, 1991) as the strongest predictor of both job success and stability. The skills needed for computing (concentration, attention to detail, and verbal abstract reasoning) transfer well to the employment arena. The finding of no significance may mean that math skills are not crucial to the entry level jobs these students hold and therefore did not emerge as a significant variable. The post hoc analysis performed with student self-ratings by group membership by math achievement level did reveal a main effect for group membership. This finding suggests the students math achievement level may influence the students' self-ratings of their job performance.

Third, no significant relationships were found in this investigation for employer ratings by the students' group membership by reading achievement level. Nor did the post hoc analysis of the student self-ratings reveal any significant differences. In contrast, the discriminant analysis results indicated reading had the most power to discriminate between the two groups. This finding is consistent with a study by Minskoff et al. (1987) in which the most frequently associated item associated with LD by the total group of employers surveyed was the inability to read.

Additional supplemental analyses in which the data was manipulated into high, average, and low achieving ability groups were performed. When the data was trichotomized, without reference to group membership, there was a statistically significant difference found in the employer rating of student job performance between the students in the group designated low achievers and the students in the high ability group. This difference may be explained with reference to a difference in the students place of employment. Students in low achieving groups often negotiate work placements that minimize risk of failure (in-school or selected settings) and maximize the match between the student and their job. Whereas it may be that the students in the high achieving groups negotiate their own employment and have less employer investment in their performance. This finding is consistent with a model for job success advanced by Siegel et al. (1991) that identified job match as important to job success.

Limitations of the Study

It is recognized that there are several limitations inherent in a study such as this. First, the rating instrument (Student Rating Form), while appropriate for school use, may not have been adequate for the purposes of this study. This form may not have been sufficiently comprehensive to assess certain aspects of social skills critical to

employment. An instrument that included additional employment characteristics may have improved the specificity of the responses and thus clarified the relationships among the variables. A related concern is that rating scales tap general traits that are not representative of the students' specific work performance.

A further study limitation was the limited number of variables measured. It would have been valuable to have included teacher ratings of students in an effort to determine how school and employment assessments compared with one another. The rating of the students by their co-workers may have provided additional insights into the working relationship. Finally, the judgement of social competence is difficult to measure and may vary depending on the skill the student is trying to perform, the context, and the person who is doing the judging.

In addition, a single measurement of job performance may not have been adequate to capture dynamic changes that may occur over time. Although the study was designed to avoid assessment based on a single point in time by encompassing the first quarter of the school year, it may be that employer expectations and thus their ratings change over time. Macomber (1980) reported that the LD worker may function well initially but the eventual manifestations of perceptual, social or language processing problems will negatively impact work adjustment. Edgerton (1983) also warns that, unless the

course of adjustment is monitored over a long period of time, any attempt to assess success or failure risks producing false negatives and false positive findings depending on whether assessment occurs during a peak or a valley.

In addition, the sample for this study is multicultural, multiracial, and drawn largely from lower and lower middle class families. While it may be assumed that this sample adequately reflects the composition of most large, urban school districts, it has limited population validity for schools with other demographic characteristics, as might be found in suburban, rural, or small-town environments. While certain characteristics of this sample may be considered a limitation, the narrow range of this research sample may also be considered a study strength. The restricted range represented in this study contributes to both generalization and replication.

On a more positive note, a specific contribution of the study is its exclusive focus on learning disabled students. Most previous studies have combined disabilities, thus limiting the study's ability to provide specific recommendations. Also, the inclusion of a control group of non-learning disabled adolescents is considered to be a strength. The frequent lack of control groups is often cited as flaw in research with learning disabilities. In addition, few employment-related studies consider the participating students' self-assessment. Chadsey-Rusch (1992) in a review of

employment training studies noted that investigators rarely report the perceptions of the target individual, with students often assuming a passive role.

Implications for Theory and Educational Practice

The results of this study have implications both in terms of theory development and pragmatic application. Assuming only an academic LD, the adolescent occupational choices could be limited as was demonstrated in the students' place of employment. The additional consideration that socio-emotional development has been impacted over time by the learning disability, suggests that adolescent development for the individual with learning disabilities may be marked by different life patterns than for their non-disabled peers. The manifestation of these differences may have a negative impact both on the formulation of future vocational goals and on the students' orientation to adult roles and functions. This notion was substantiated in the statistically significant finding of group difference for the students' self-ratings.

In terms of practical application, four recommendations emerge from the findings of this research project. First, the level of math and reading skills reported in this study are relatively low, but the literature concerning which academic skills are necessary in the workplace does not mention grade equivalents. Therefore, the implications of these low levels remains unclear. Although the students' level of academic skills influenced place of employment, the key to success

seems to be whether the student can actually use academic skills to solve problems and communicate with others, rather than the absolute level of the students' skills (Chesler, 1982). Teachers of students with learning disabilities may wish to concentrate on the application of academic skills in real life settings, or even in classroom simulations, in order to better prepare students for the tasks they will encounter in employment contexts.

Second, results of this study highlight the differential need for special services. While LD students can benefit from generic transition services, the importance of vocational assessments that can better place individuals in appropriate jobs and suggest accommodations cannot be underestimated. Proponents of the Regular Education Initiative (REI), or the inclusion model, could challenge the current practice of operating separate work study programs citing the similarities between the two groups as demonstrated in this study. The increased social support that the LD student receives in school may mitigate some of the interpersonal problems that define this population. Licopoli (1984) characterized the LD resource room from his observations as functioning like a "family." The findings from this study indicate that the support the LD students receive in connection with their work-study assignment is a substantial one, and that a work assignment without early job support may constitute an at-risk situation apart from factors often associated with learning

disabilities. If this support service makes the difference between job success and job failure, it could explain the positive employer ratings received by the LD students. As more special education students, especially those with learning disabilities, are served in the regular education program, it is crucial they receive the supportive services they require.

Third, survey data indicated that 70% of the LD students have future educational plans (34% listed college and 30% the military). Taken together, 64% of the LD students cited unrealistic career choices. For many, these choices cannot be considered legitimate options, given the low academic achievement scores for the students represented in this study. Rosenthal (1989) noted that individuals with learning disabilities often experience difficulty in vocational decision making based on personal assessment of abilities, deficits, interests, and values. Decision making is often confounded by poor reality testing that leads to unrealistic job expectations. Transition programs need to expand the range of possible options to enable students to more fully develop realistic career choices.

Finally, successful adjustment in postschool settings is strongly influenced by how well youth do in school. Graduation from high school has a significant positive relationship with participating in postsecondary education and training, employment status, and the degree to which a person engages in productive activities in general. Placement in the

work study program appears to support students in their effort to attain a high school diploma and to assist in the postschool transition.

Implications for Future Research

Perhaps the greatest need for further study is the follow-up of the participants in this study. Future research of a longitudinal nature could be undertaken to follow the study participants in an effort to determine the stability of work relationships. The data sets analyzed for this study were based on employer assessments during the first quarter of the school year. As such, they describe the initial work relationship. What happens to students both with and without learning disabilities as the school year progresses? Are employer ratings consistent or do they change over time? The answers to these questions have implications for the design of work study programs for adolescents with learning disabilities.

Another possible area of future work could be focused on the unique supervisory needs of learning disabled adolescents and adults. Although the findings related to Hypothesis 1 that there were no significant differences in the ratings of job performance across LD and non-LD students, this finding is worthy of further examination. As stated earlier, a learning disability is often referred to as a "hidden handicap." Many learning disabled students lack visual identification,

sometimes causing their behavior to be misinterpreted. The scarcity of literature available on the supervision of workers with learning disabilities invites researchers to identify issues and provide solutions to the workplace supervisors of employees with learning disabilities. Research efforts in this direction appear especially relevant in light of the American with Disabilities Act of 1990 that mandates that employers recognize the special needs of this population.

Overall, the results of this study and the review of the literature suggest that a learning disability cannot be viewed as a global construct. Broad application of the LD label has resulted in inconsistencies across studies purportedly studying the same population. It is recommended that future research move away from general comparisons of LD and non-LD diagnostic categories to a more fine-grained analyses of subgroups within the LD population. Further exploration of the factors that distinguish students with learning disabilities appears to be warranted. This would assist in the identification of the risk status of different subgroups, especially as it relates to transition activities.

In summary, the results of this study offer some important findings related to the transition period for all students enrolled in secondary work study programs. The federal transition model has established the high school as the primary foundation for transition services with employment as its goal. The commitment to provide a firm foundation

mandates the provision of appropriate and comprehensive services for the successful transition to postsecondary training and employment. Broader considerations regarding the form and function of American education now, and into the next century, will have significant implications for the design of not just special education but the education of all adolescents.

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APPENDIX A
CONSENT FORMS

FORM A

PARENT OR GUARDIAN'S CONSENT FOR PARTICIPATION

PROJECT TITLE: TRANSITION OF LD ADOLESCENTS

I, _____, THE PARENT OR
 GUARDIAN OF, _____, A MINOR
 OF _____ YEARS OF AGE, HEREBY CONSENT TO HIS/HER PARTICIPATION IN
 A RESEARCH PROJECT BEING CONDUCTED BY, CAROLINE SEUFERT, A STUDENT
 AT LOYOLA UNIVERSITY.

THIS PROJECT IS INTENDED FOR STUDENTS PARTICIPATING IN THE
 WORK-STUDY PROGRAM. AS A PARTICIPANT IN THIS PROJECT MY CHILD
 WILL BE ASKED TO COMPLETE THE SAME EVALUATION FORM USED BY HIS/HER
 EMPLOYER. THE FORMS WILL BE COMPLETED AT THE END OF THE
 FIRST MARKING PERIOD AND WILL NOT INFLUENCE MY CHILD'S GRADE.
 ALL FORMS WILL BE DISTRIBUTED AND COLLECTED BY THE INVESTIGATOR.
 THIS INVESTIGATION IS INDEPENDENT OF THE WORK-STUDY TEACHER AND
 MY CHILD'S WORK-STUDY EMPLOYER. MY CHILD WILL ALSO PARTICIPATE IN
 A SHORT INTERVIEW TO PROVIDE GENERAL INFORMATION ABOUT HIM/HER SELF
 AND TO PROVIDE INFORMATION ABOUT FUTURE PLANS. A POTENTIAL BENEFIT
 OF THIS INVESTIGATION MAY BE THE DEVELOPMENT OF THE STUDENT'S
 AWARENESS OF THE WORK EVALUATION PROCESS. THIS INFORMATION MAY BE
 HELPFUL TO THE STUDENTS IN THEIR JOB SETTING.

I UNDERSTAND THAT NO RISK IS INVOLVED, BUT THAT I MAY WITHDRAW
 MY CHILD FROM PARTICIPATING AT ANY TIME WITHOUT PENALTY.

 SIGNATURE OF PARENT OR GUARDIAN

 DATE

FORM B

MINOR STUDENT CONSENT FOR PARTICIPATION

TITLE: TRANSITION OF LD ADOLESCENTS

I, _____, ENROLLED IN THE
WORK-STUDY PROGRAM AT _____,
AGREE TO PARTICIPATE IN THIS PROJECT. AT THE END OF THE MARKING
PERIOD, I WILL RATE MY JOB PERFORMANCE ON THE SAME EVALUATION FORM
USED BY MY EMPLOYER. THIS EVALUATION FORM WILL BE COMPLETED AT
SCHOOL AND WILL NOT BE PART OF MY GRADE. I WILL ALSO PARTICIPATE
IN A SHORT INTERVIEW TO PROVIDE GENERAL INFORMATION ABOUT MYSELF
AND TO INDICATE FUTURE PLANS.

I MAY WITHDRAW THIS CONSENT AT ANY TIME WITHOUT PENALTY.
I ALSO UNDERSTAND, IN ORDER TO PARTICIPATE, MY PARENTS MUST SIGN A
CONSENT FORM.

SIGNATURE OF PARTICIPANT

DATE

FORM C

STUDENT OVER 18 YEARS OF AGE CONSENT FORM

PROJECT TITLE: TRANSITION OF LD ADOLESCENTS

I, _____, A STUDENT OVER 18 YEARS OF AGE, HEREBY CONSENT TO PARTICIPATE IN A RESEARCH PROJECT BEING CONDUCTED BY, CAROLINE SEUFERT, A STUDENT AT LOYOLA UNIVERSITY.

AS A PARTICIPANT IN THIS PROJECT, I WILL BE ASKED TO COMPLETE THE SAME EVALUATION FORM USED BY MY WORK-STUDY EMPLOYER. I WILL DO THE EVALUATION FORM AT SCHOOL AT THE END OF THE FIRST MARKING PERIOD. MY EVALUATION WILL NOT INFLUENCE MY GRADE IN THE WORK-STUDY PROGRAM. THE EVALUATION FORMS WILL BE DISTRIBUTED AND COLLECTED BY THE INVESTIGATOR NAMED ON THIS CONSENT. I WILL ALSO PARTICIPATE IN A SHORT INTERVIEW TO PROVIDE GENERAL INFORMATION ABOUT MYSELF AND TO INDICATE FUTURE PLANS. A POSSIBLE BENEFIT OF THIS INVESTIGATION IS AN INCREASED AWARENESS OF THE EVALUATION PROCESS, WHICH COULD HELP IMPROVE MY WORK-STUDY JOB PERFORMANCE.

I UNDERSTAND THAT NO RISK IS INVOLVED, AND THAT I MAY WITHDRAW MY PARTICIPATION AT ANY TIME WITHOUT PENALTY.

SIGNATURE

DATE

APPENDIX B
INTERVIEW PROTOCOL

INTERVIEW PROTOCOL

1. How old are you? Age_____

2. What grade are you in? Grade_____

3. Do you have any brothers and sisters?
If yes, what are their ages?

4. What is your father's usual job?

Is he working now?_____

5. What is your mother's usual job?

Is she working now?_____

6. How did you find your work-study job?

self teacher friend family

7. Do you belong to any school clubs or teams?

If yes, which club or team?_____

8. Do you have any plans for future educational activities?

NO
YES

If yes, what are they?

Job training
Trade school
Junior College
College
Military

APPENDIX C
STUDENT RATING FORM

STUDENT RATING FORM

STUDENT _____

SCHOOL _____

BUSINESS _____

TRAIT	Superior	Above Average	Average	Below Average
Ability to Get Along With Others				
Appearance and Grooming				
Ability to Accept Criticism				
Dependability (Attendance/Punctuality)				
Ability to Follow Directions				
Quality of Job Performance				
Amount of Daily Work				
Ability to Understand Scheduling				
Uses Appropriate Speech				

APPENDIX D
EMPLOYER LETTER

Nov. 7, 1992

Dear-----,

Attached is a student rating form for_____. This student is participating in a research project, intended for students in high school work study programs. This project, designed to examine the evaluation process is being conducted by Caroline R. Seufert, a doctoral candidate, at Loyola University of Chicago.

Please take the time to complete the evaluation form and return it in the enclosed envelope. Thank you for participating, your input is greatly appreciated.

Sincerely,

Caroline R. Seufert

APPENDIX E
LIST OF STUDENT JOBS

Jobs Held by Learning Disabled Students

1. Chili's Restaurant (cook/dishwasher)
2. In-School (cafeteria)
3. In-school (cafeteria)
4. Crate and Barrel (stock room)
5. Factory (employing only disabled workers)
6. Northfield Motors (maintenance)
7. Retirement Home (switchboard)
8. Family building (maintenance)
9. Presbyterian Retirement Home (serves meals)
10. Dominick's Food Stores (bagger)
11. Northtown Refrigerator (receptionist)
12. Dominick's Food Stores (cashier)
13. In-School (teacher aide)
14. In-School (teacher aide)
15. In-School (teacher aide)
16. In-School (teacher aide)
17. In-School (teacher aide)
18. In-School (teacher aide)
19. McDonald's (cook)
20. In-School (teacher aide)
21. My Fair Lady Catering (food preparer)
22. Butera Food Store (stock)
23. Popeye's Chicken (cashier)
24. Popeye's Chicken (cashier)
25. Little Caesar Pizza (cook)
26. Mid-City Auto Care and Cleaning (car washer)
27. Blimpies Sandwich Shop (cook)
28. In-School (teacher aide)
29. Hines Hospital (warehouse)
30. Hines Hospital (warehouse)
31. In-School (teacher aide)
32. McDonald's (cook)
33. In-School (teacher aide)
34. In-School (teacher aide)
35. Little Caesar Pizza (cook)

Jobs held by Non-Learning Disabled Students

1. Marshall's (stock room)
2. Chili's Restaurant (cook)
3. Ace Hardware (clerk)
4. Private Developer (maintenance)
5. Jewel Food Store (cashier)
6. Jewel Food Store (bagger)
7. Family Dollar (stock room) -
8. Marshall's (cashier)
9. Goldblatt's Department Store (cashier)
10. Central Telephone Interviewing System (tele-marketer)
11. Retirement Home (maintenance)
12. McDonald's (cashier)
13. Central Telephone Interviewing System (tele-marketer)
14. Checker's Restaurant (cook)
15. Rental Center (clerk)
16. Kids' Clothes (clerk)
17. Restaurant (waiter)
18. In-School (teacher aide)
19. Retirement Home (serves meals)
20. K-Mart (cashier)
21. Mr. N's Truck Repair, Inc. (receptionist)
22. Marquette National Bank (office aide)
23. Travelers Telebrokerage, Inc. (office aide)
24. 3-M National Advertising Company (office aide)
25. W.R. Grace & Co. (office aide)
26. Miles Inc. (general office)
27. Marquette National Bank (teller/data entry)
28. Venture (cashier)
29. U. S. Department of Energy (data entry)
30. Argonne National Laboratory -Chicago Office (office aide)
31. 3-M National Advertising Company (office aide)
32. 3-M National Advertising Company (office aide)

VITA

Caroline Rehm Seufert was born in St. Louis, Missouri in 1947. Her parents are Charles and Claire Rehm.

She attended Nerinx Hall High School in Webster Groves, Missouri. The author received her Bachelor of Science degree in Speech Pathology/Audiology from the University of Missouri in 1969. She has completed clinical practica at Holy Cross and Mercy Hospitals in Chicago. The author is a licensed Speech Pathologist, employed in the Chicago Public Schools.

The author has served as a board member for the Evanston Mental Health Association. Recent presentations include the Spring 1992 meeting of the Illinois Orton Dyslexia Society, and for the Evanston and Winnetka Public Schools.

APPROVAL SHEET

The dissertation submitted by Caroline R. Seufert has been read and approved by the following committee:

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The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

October 29, 1993
Date

Martha Ellen Wynne
Director's Signature